* UMASS/AMHERST *
312066 0333 2649 1

SHOUT
SHARE
IT

LIBRARY
OF THE
MASSACHUSETTS
AGRICULTURAL
COLLEGE

No. 6226 DATE 9 1887
SOURCE College funds
F v.21

C
Per
SF
521
A5

[illegible]

F
638.05
Am3
v.21

MASSACHUSETTS AGRICULTURAL COLLEGE

OLDEST BEE PAPER IN AMERICA

THE WEEKLY BEE JOURNAL

ESTABLISHED IN 1861

DEVOTED TO THE INTERESTS OF HONEY PRODUCERS.

ESTABLISHED IN 1861.

Chicago, Ill., Jan. 7, 1885.

VOL. XXI.—No. 1.

WEEKLY EDITION
OF THE
AMERICAN

ESTABLISHED IN 1861
OLDEST BEE PAPER IN AMERICA

BEE JOURNAL

PUBLISHED BY
THOMAS G. NEWMAN,
Editor and Proprietor,
25 WEST MADISON-STREET, CHICAGO, ILL.

Weekly, $2 a year; Monthly, 50 cents.

George Neighbour & Sons, London, England, are our authorized agents for Europe.

Entered at the P.O. as Second-Class matter.

TO CORRESPONDENTS.

The Subscription Price of the Weekly Bee Journal is **$2.00** a year; and of the Monthly, **50 cents** a year in advance. New Subscriptions can begin at any time. Single Copies, five cents each.

Foreign Postage.—To all countries in the Universal Postal Union: Weekly **50** cts. or Monthly **10** cents extra. To all countries NOT in the Universal Postal Union: Weekly **$1**, or Monthly **20** cents, above the price of subscription.

Club Rates for the Weekly are: $3.80 for two copies (to the same or different post-offices); $5.50 for three copies; $7.20 for four copies; and for five or more copies, $1.75 each.

Club Rates for the Monthly are: two copies (to the same or different post-offices) for 90 cents; three copies, $1.30; four copies for $1.70: five copies, $2.00; more than five copies **40** cents each.

Sending Money.—Remit by Express, Post Office Order, Postal Note, or Bank Draft on New York or Chicago. If neither of these can be obtained, Register your Letter, affixing stamps both for postage and registry, and take a receipt for it; or send it by Express. Money, sent as above described, is AT OUR RISK, otherwise, it is not. Do not send checks on local banks, which cost us 25 cents each, at the banks here, to get them cashed.

Never send Silver in Letters. It will wear holes in the envelope, or be stolen.

Subscription Credits.—The receipt for money sent us will be given on the address-label of every paper. If not given in two weeks after sending the money, write to us, for something must be wrong about it. Do not wait for months or years, and then claim a mistake. The subscription is paid to the END OF THE MONTH indicated on the wrapper-label. This gives a continual statement of account.

Topics Presented in this Number.

Bees Uneasy and Roaring......... 4
Catalogues for 1885................ 3
Convention Notices........... 10, 12
Correspondence 5
Editorial Items.................. 3, 4
Food for Bees in Winter.......... 4
Honey and Beeswax Market...... 2
Introduction 4
Letter Box (as indicated below) 11, 12
  J. H. Brown,
  C. H. Chapman,
  C. J. Church,
  T. B. Dickinson,
  Alfred Gale,
  W. C. Hamilton,
  H. H. Hance,
  L. Highbarger,
  G. W. James,
  T. F. Kinsel,
  Fayette Lee,
  R. Lounsbury,
  John Morris,
  L. D. Ormsby,
  Robert Osborne,
  L. G. Purvis,
  J. W. Sanders,
  F. Schmitt,
  Mrs. S. E. Sherman,
  Wm. Seitz,
  W. H. Smith,
  Hj. Stalhammar,
  W. H. Stout,
  Geo. A. Temple,
  A. Wicherts,
  C. W. Young,
  Wm. Muth-Rasmussen.
Local Convention Directory... ... 11
Michigan State Convention......... 6
New Year's Greeting............... 3
Premiums for Clubs.... 13
Queries and Replies................ 4
Reversible Frames.................. 8
"Satisfaction Guaranteed"........ 3
Special Notices.................. ... 13
The Bee Journal for 1885.......... 13
The Langstroth Bee-Spaces....... 10
The New and the Old Year....... 3
Wintering Bees, Selling Honey, etc 9

Look at Your Wrapper-Label.

X Subscribers whose papers reach them with this paragraph marked with a *blue* pencil, will please take notice that their *subscription has* EXPIRED. We do not want to lose any of our subscribers, and give this notice so that all may get every number of the Bee Journal without any break, and no papers will be missed. When the money for renewal is received at this office, the date on the label is changed to correspond, and this change is a receipt. If any mistake is made, notify us at once.

ADVERTISING RATES,

20 cents per line of space, each Insertion.

For either the Weekly or Monthly Editions.

A line of this type will admit about **7** words. ONE INCH will contain TWELVE lines.

Transient Advertisements must be paid for in advance.

Editorial Notices will be inserted at the rate of **50** cents per line.

Time Discounts on advertisements will be made as follows: **On 10 lines** and upward, 3 insertions, 5 ⅌ cent.; 6 insertions, 10 ⅌ cent.; 9 insertions, 15 ⅌ cent.; 12 insertions, 20 ⅌ cent.; 26 insertions, 25 ⅌ cent.; 52 insertions, 40 ⅌ cent.

On 50 lines and upward, 1 time, 5 ⅌ cent.; 3 insertions, 10 ⅌ cent.; 6 insertions, 15 ⅌ cent.; 9 insertions, 20 ⅌ cent.; 12 insertions, 25 ⅌ cent.; 26 insertions, 30 ⅌ cent.; 52 insertions, 50 per cent.

On 100 lines and upward, 1 time, 10 ⅌ cent.; 3 insertious, 15 ⅌ cent.; 6 insertions, 20 ⅌ cent.; 9 insertions, 25 ⅌ cent.; 12 insertions, 30 ⅌ cent.; 26 insertions, 40 ⅌ cent.; 52 insertions, 60 per cent.

TO CORRESPONDENTS.

Advertisements for the next Weekly Bee Journal must reach this office by the Saturday of the previous week.

Books for Bee-Keepers.—For prices and descriptions of bee-books, see the second page of this paper.

All Papers are Stopped at the expiration of the time paid for, unless requested to be continued.

When writing to this office on Business, correspondents must not write anything for publication on the same sheet of paper, unless it can be torn apart without interfering with either part of the letter. The editorial and business departments are separate and distinct, and when the business is mixed up with items for publication it often causes confusion. They both may be sent in one envelope, but on separate pieces of paper.

Always give the name of the Post-Office to which your paper is addressed. Your name cannot be found on our List, unless this is done.

Emerson Binders, made especially for the Bee Journal, are lettered in gold on the back, and make a very convenient way of preserving the Bee Journal as fast as received. They will be sent, postpaid, for 75 cents each. They cannot be sent by mail to Canada.

To Canadians.—We take Canadian money for subscription or books; and Canadian postage stamps may be sent for fractions of a dollar.

Postage Stamps of any denomination may be sent for fractions of a dollar: or where Money Orders, cannot be obtained, stamps for any amount may be sent.

Lost Numbers.—We carefully mail the Bee Journal to every subscriber, but should any be lost in the mails, we will cheerfully replace them if notified before all the edition is exhausted.

BOOKS!

Sent by mail, on receipt of price, by

THOMAS G. NEWMAN,

925 West Madison Street, CHICAGO, ILL.

On dozen or half-dozen lots of one kind, we allow 25 per cent. discount, and prepay postage. Special rates on larger quantities, given upon application.

Bees and Honey, or Management of an Apiary for Pleasure and Profit, by THOMAS G. NEWMAN.—It is "fully up with the times," in all the various improvements and inventions in this rapidly-developing pursuit, and presents the apiarist with everything that can aid in the successful management of the honey-bee, and at the same time produce the most honey in its best and most attractive condition. It embraces the following subjects: Ancient History of Bees and Honey—Locating an Apiary—Transferring—Feeding — Swarming — Dividing — Extracting — Queen Rearing—Introducing Queens—Italianizing—Bee Pasturage a Necessity—Quieting and Handling Bees—The Management of Bees and Honey at Fairs—Marketing Honey, etc. 220 profusely-illustrated pages. Price, bound in **cloth, $1.00;** 2 copies for $1.80; 3 copies for $2.55; 5 for $4.00; 10 for $7.50. **Paper covers, 75** cents; 2 copies for $1.40; 3 copies for $2.00; 5 for $3.00; 10 for $5.00.

The Apiary Register, by THOMAS G. NEWMAN.—A Record and Account Book for the Apiary, devoting 2 pages to each colony, ruled and printed, and is so arranged that a mere glance will give its complete history. Strongly bound in full leather. Price, for 50 colonies, **$1.00;** for 100 colonies, **$1.25;** for 200 colonies, **$1.50.**

Honey as Food and Medicine, by THOMAS G. NEWMAN.—It gives the various uses of Honey as Food; recipes for making Honey Cakes, Cookies, Puddings, Foam, Wines, etc. Also, Honey as Medicine, with many valuable recipes. It is intended for consumers, and should be liberally scattered to help in creating a demand for honey. Price, for either the **English** or **German** edition, 5 cents—one dozen, **40** cents—100 for **$2.50**—500 for **$10.00**—1,000 for **$15.00.**—If 100 or more are ordered, we will print the bee-keeper's card (free of cost) on the cover.

Bee - Keepers' Convention Hand Book, by THOMAS G. NEWMAN.—It contains a simple Manual of Parliamentary Law and Rules of Order for the guidance of officers and members of Local Conventions—Model Constitution and By-Laws for a Local Society—Programme for a Convention, with Subjects for discussion—List of Premiums for Fairs, etc. Bound in cloth, and suitable for the pocket. Price, **50** cents. Leather **60** cents.

Why Eat Honey? by THOMAS G. NEWMAN.—This Leaflet is intended for distribution in the Bee-Keeper's own locality, in order to create a Local Market. Price, **50** cents per 100; 500 copies for **$2.25;** 1,000 copies for **$4.00.** When 200 or more are ordered at one time, we print on them the honey-producer's name and address FREE.

Preparation of Honey for the Market, including the production and care of both Comb and Extracted Honey, and Instructions on the Exhibition of Bees and Honey at Fairs, etc., by THOMAS G. NEWMAN. A chapter from "Bees and Honey."—**10 cts.**

Swarming, Dividing and Feeding Bees.—Hints to Beginners, by T. G. NEWMAN. A chapter from "Bees and Honey." Price **5c.**

Bee Pasturage a Necessity, by THOMAS G. NEWMAN—Progressive views on this important subject; suggesting what and how to plant.—A chapter from "Bees and Honey." 26 engravings. Price, **10c.**

Bees in Winter, by THOMAS G. NEWMAN. —Describing Chaff-packing, Cellars and Bee-Houses. A chapter from "Bees and Honey." Price **5c.**

Bienen Kultur, by THOMAS G. NEWMAN. —In the **German** language. Price, in paper covers, **40** cents, or **$3** per doz.

Phenol for the Cure of Foul Brood. —By Prof. Frank R. Cheshire, of London, England. Price **10** cents; 32 pages.

Bee-Keepers' Guide, or Manual of the Apiary, by PROF. A. J. COOK.—It is elegantly illustrated, and fully up with the times on every subject that interests the bee-keeper. It is not only instructive, but interesting and thoroughly practical. It comprises a full delineation of the anatomy and physiology of Bees. Price, **$1.25.**

Quinby's New Bee-Keeping, by L. C. ROOT.—Its style is plain and forcible, making its readers realize the fact that the author is master of the subject. Price, **$1.50.**

A B C of Bee-Culture, by A. I. ROOT.—Embraces everything pertaining to the care of the Honey-Bee, and is valuable to the more advanced bee-keeper, as well as the beginner. Cloth, **$1.25;** paper, **$1.**

Blessed Bees, by JOHN ALLEN.—A romance of bee-keeping, full of practical information and enthusiasm. Price, **75c.**

The Hive and Honey-Bee, by REV. L. L. LANGSTROTH.—The work of a master, and will always remain a standard.—Price **$2.00.**

Dzierzon's Rational Bee-Keeping.—A translation of the master-piece of that most celebrated German authority. Price, bound in cloth, **$2.00;** in paper covers, **$1.50.**

Queen-Rearing, by HENRY ALLEY.—A full and detailed account of 23 years experience in rearing Queen Bees. The cheapest, easiest and best way of rearing. Price, **$1.**

Bee-Keepers' Text Book, by A. J. KING—Revised and enlarged. Price, **$1.00.**

Extracted Honey; Harvesting, Handling and Marketing.—By CHAS. DADANT & SON.—Details their management. Price, **15c.**

Practical Hints to Bee-Keepers, by CHAS. F. MUTH.—Gives his views on the management of bees. Price, **10c.**

Dzierzon Theory.—The fundamental principles of Dzierzon's system of apiculture as set forth by Berlepsch. It was translated by the late Samuel Wagner. Price, **15c.**

Dictionary of Practical Apiculture, by PROF. JOHN PHIN.—This gives the correct meaning of nearly 500 apicultural terms. Price, bound in cloth, **50c.**

The Hive I Use, by G. M. DOOLITTLE.—Details his management of bees. Price **5c.**

Foul Brood, by A. R. KOHNKE.—Its origin and cure. Price, **25c.**

Moore's Universal Assistant, and Complete Mechanic.—Contains over 1,000,000 industrial facts, calculations, processes, trade secrets, legal items, business forms, etc. Price, **$2.50.**

Kendall's Horse Book.—No book can be more useful to horse owners. It has 35 engravings, illustrating positions of sick horses, and treats all diseases in a plain and comprehensive manner. It has many good recipes, etc. Price, **25c.,** in either **English** or **German.**

Food Adulteration.—What we eat and what we should not eat. Price, **50c.**

Scribner's Lumber and Log Book.—Gives measurement of all kinds of lumber, logs and planks; wages, rent, etc. Price, **35c.**

Fisher's Grain Tables.—For casting up the price of grain, produce and hay; wood measurer, ready reckoner, tables for plowing, etc. Price, **40c.**

Hand-Book of Health, by Dr. Foote. Rules for eating, drinking, sleeping, bathing, working, dressing, etc. Price, **25c.**

Constitution and By-Laws, for local Associations, **$2** per 100. The name of the Association printed in the blanks **50c.** extra.

Emerson Binders, made especially for the BEE JOURNAL, and lettered in gold on the back. Price, for the Weekly or Monthly, **75 cents** each. They cannot be sent by mail to Canada.

Photographs of Rev. L. L. Langstroth, Baron of Berlepsch, or Dzierzon, **25** c. each.

Ribbon Badges, for bee-keepers, on which are printed a large bee in gold, **10c.** each, or **$8** per 100. Large and elegant ones, with rosette, **50** cents, post-paid, **10** cents.

Poulterer's Guide, for treating diseases of Poultry, etc., by C. J. WARD. Price **25c.**

Honey and Beeswax Market.

Office of the AMERICAN BEE JOURNAL,
Monday, 10 a.m., January 5, 1885.

The following are the latest quotations for honey and beeswax received up to this hour:

NEW YORK.

HONEY.—Our market is well supplied with comb honey, with an unsatisfactory demand for it, even at the following low prices:

Fancy white comb in 1-lb. sections, 16@18c.; the same in 2-lb sections, 14@16c.; fair to good white comb in 1 and 2-lb. sections, 13@15c.; fancy buckwheat comb in 1-lb. sections, 10@11c.; same in 2-lb. sections, 9@9½c.; ordinary grades of buckwheat comb honey, in 1 and 2-pound sections, 9@9½c. Extracted, white clover, in kegs or small barrels, 8@8½c.; buckwheat, in ditto, 6@7.

BEESWAX.—Prime yellow, 31@32c.

McCAUL & HILDRETH, 34 Hudson St.

BOSTON.

HONEY.—Market overstocked with California honey. Best white, in 1-lb. and 2-lb. sections, 15@18c. with slow sales. Extracted, 6@8c.

BEESWAX—35c.

BLAKE & RIPLEY, 57 Chatham Street.

CHICAGO.

HONEY.—The sales of comb honey are very light at present, and prices little better than nominal, The stock of that produced in the Middle States is not large, compared with the past two seasons. But then we did not have the Pacific slope pouring it in by the car-load, as they are doing at present, and which can be bought by the case at 12 to 14c. per pound—in combs of 2-lbs. well filled and pure white in appearance. A large percentage of the trade buy it in preference to our Mississippi Valley at the same price. I quote 1-lb. frames, well filled and pure white, at 16c. A little off in color, etc., 14@15c. Extracted, weak, 6@8c.

BEESWAX.—For fair to yellow, 28@30c.

R. A. BURNETT, 161 South Water St.

CINCINNATI.

HONEY.—There is nothing very encouraging in the market, Supply of comb and extracted honey is good, and while the retail demand is fair for the latter, it is slow for comb honey. Demand for extracted honey from manufacturers is very dull. Prices range low, being caused not so much by large supplies as by the low price of sugar, adulterations and stagnation in the manufacturing business. .Choice comb honey in 1-lb. and 2-lb. sections brings 15@16c. on arrival, and extracted, 6@9c.

BEESWAX.—Arrivals are slow, with a good home demand. Good yellow brings 28@29c. on arrival. C. F. MUTH, Freeman & Central Ave.

SAN FRANCISCO.

HONEY.—Desirable qualities of extracted are moving pretty freely, mainly on European account. The market for best grades is firm. A vessel sailed this week for Liverpool, Eng., with about 1,000 crates and 300 barrels. Comb honey is in good supply and rather poor request.

White to extra white comb, 9@10c.; dark to good, 4@8c. Extracted, choice to extra white, 4½@5c.; dark and candied, 3½@4c.

BEESWAX.—Quotable at 25@30c., the latter being a jobbing rate for choice.

STEARNS & SMITH, 423 Front Street.

ST. LOUIS.

HONEY—Steady; demand and supply both small. Comb, 12@14c per lb., and strained and extracted 5½@6c.

BEESWAX—Firm at 32@32½c. for choice.

W. T. ANDERSON & CO., 104 N. 3d Street.

CLEVELAND.

HONEY.—Honey is in a little better demand at a little lower price than our former quotations. Whilst the market is still full, we are enabled to place extra lots of strictly white one-lb. sections at about 15c., with an occasional sale at 16c.; 1½ and 2-lb. sections, best white, 14c.; dark and second quality, rather slow at 12 to 14c. For extracted there is no demand.

BEESWAX.—28c.

A. C. KENDEL, 115 Ontario Street.

SAN FRANCISCO.

HONEY—We quote comb honey in 2 lb. sections, 13@14c; extracted, 6½c.

GEO. W. MEADE & CO., 213 Market.

KANSAS CITY.

HONEY.—The market is quiet and unchanged, with good demand and liberal receipts. Comb, ½-lb. sections, none in the market. They would bring 18c.; 1-lbs., 14@16c.; 2lbs., 13@14c. The above figures are for choice stock in regular shipping crates. Dark or large combs in rough crates sell slowly at 9 to 10c. Extracted, California, 6@7c.; white clover, 7@8c.; Southern, 5½@6c.

BEESWAX.—None in the market.

CLEMONS, CLOON & CO.

WEEKLY EDITION
OF THE
AMERICAN
ESTABLISHED IN 1861
OLDEST BEE PAPER IN AMERICA
BEE JOURNAL

THOMAS G. NEWMAN,
EDITOR AND PROPRIETOR.

Vol. XXI. Chicago, Jan. 7, 1885, No. 1.

The New and the Old Year.

O, jolly New Year, we welcome thee !
But we're sorry to part from the Old,
For tho' full many a day he gave
That was dreary and dark and cold,
Yet he's left us memories sweet and dear,
This good and bad, this checkered Old Year !

Memories kind, of beautiful days
When our hearts beat fast with our joy ;
When hope was bright, and the gold sunlight
Shone gayly without alloy ;
And of days when the sky was no longer clear,
And the clouds brought up from the heart a tear.

But the joyful hours the brightest are,
And they all sorrow outshine ;
So the memories happy are nearer far
Than those that would make us pine.
So the New Year we'll welcome with hope's bright glow,
And the Old Year, we'll bless it and let it go.

D. M. S.

New Year's Greeting.

We deem it quite appropriate, here, to congratulate our thousands of readers upon the fact that the BEE JOURNAL to-day enters upon its *prime manhood*—its 21st year of age—its majority—with the beginning of the New Year. We shall enter upon it with unexcelled strength, and as year by year the patrons of the BEE JOURNAL have been steadily increasing, we are more than ever determined to cater to the enlightenment and welfare of our patrons by keeping abreast with all the progress and improvement of the ever-advancing age in which we live.

We are grateful for past favors, and we confidently look for an increased support by progressive bee-keepers everywhere, in order to enable the BEE JOURNAL to retain the proud position of being *the best*, as well as the oldest bee-paper on the American Continent. The BEE JOURNAL and its able corps of correspondents have contributed their full share in all the advance-steps of modern improvements in bee-culture, and it has kept its readers fully posted in the development of every one of such, as fast as they have attained a foot-hold.

Our corps of able correspondents increase with every dawning year, and thus we are enabled to furnish our readers with sound and practical sentiments, every week, in all the departments pertaining to "our pursuit," lucidly set forth by the most intelligent and experienced apiarists of the world.

It is true that the past year has not been one of prosperity for the apiarist, but no sadness on that account should be allowed to possess our hearts on this—the threshold of a New Year! At this season all should be happiness, with courageous plans for the future. We are all naturally hopeful, and will patiently wait and work for "the good time coming;" hence if the past year has not brought to us all the full fruition of our hopes, we must all look forward to the New Year for it.

The oft-repeated *wish* of "a Happy New Year" we now extend to all our readers, and it is born of the *hope* that it may be so to all. Let us—

"Ring out the Old, ring in the New,
Ring out the false, ring in the true."

"Satisfaction Guaranteed."

While many are preparing advertisements for the new year, we wish to give them a *hint.* It should be the *aim* of all supply dealers and queen-breeders to give satisfaction to all their customers, by giving value received for every doller sent them for goods—but no one can guarantee that every customer will be satisfied. Some will fail to give certain particulars in their orders, and will receive the wrong goods, others will specify one thing and mean another, by inadvertance, and will *not* be satisfied with what they get. Still others will have a higher standard to judge by than the dealer, and hence the queens will not be thought to be as good as some the purchaser already has on hand, or the appearance or workmanship of the goods will not compare favorably with those made by some other party, or something or other may cause a dissatisfaction, against which the advertiser cannot give a guarantee! Will those interested "take the hint," and not invite trouble. We are getting complaints nearly all the time from some who are dissatisfied with goods obtained from some dealer or other, and hence this *caution!*

☞ Another of the pioneers in bee-keeping has passed away—we refer to Mr. W. W. Cary, of Colerain, Mass., who departed this life on Dec. 9, 1884. A suitable notice is being prepared for the BEE JOURNAL, by his old-time friend and co-laborer, Dr. E. Parmly of New York.

☞ The article on "Honey as a substitute for butter," on page 820 of our last issue, was written by Mr. T. L. Robinson, for the *Philadelphia Times*; the "prominent member of the Franklin Institute" there mentioned, was Mr. Arthur Todd, Vice-President of the Philadelphia Bee-Keepers' Association. Mr. Ackerman credited it to another paper, and hence we give this correction; "Honor to whom honor is due," being our motto. We are glad to learn that Mr. Todd intends to open a depot in Philadelphia for the disposal of honey, for the bee-keepers of that vicinity. The fact of his being a "bee-expert," of having a "bee-farm," etc., will be a good recommendation to retailers, as well as to give him the means of creating a demand for honey in many families—making a market for the surrounding bee-keepers.

Catalogues for 1885.—We have received the following:

J. T. Wilson, Nicholasville, Ky.
E. L. Goold & Co., Brantford, Ont.
Alfred H. Newman, 923 West Madison St., Chicago, Ill.
Landreth's Seed Catalogues, Philadelphia, Pa.; also an elegantly illustrated "Companion for the Garden and Farm," and Rural Register and Almanac for 1885.

☞ From an investment of $2.00, every subscriber to the Weekly BEE JOURNAL for 1885, will receive fifty-two dividends.

☞ *Vick's Illustrated Magazine* for December, just received, is unusually interesting. Besides the usual beautiful colored plate, which in this issue is a group of Double Dahlias, there are forty pages of just such reading as those interested in flowers and gardening generally will enjoy.

☞ Bayard Taylor called snowflakes the "wild white bees of winter." When they swarm it is stinging cold.

☞ Sweet home—A bee-hive.

Queries & Replies.

Introduction.

During the year 1885, the Bee Journal will contain a Department entitled as above, and many of the prominent apiarists have already consented to contribute to it. An old proverb says that "in the multitude of counsels there is wisdom," and we believe it will prove to be a very true one in this case.

This department now supersedes the one which has existed during the past two years, entitled "What and How?" and which was ably conducted by James Heddon, who fully endorses the scope and general outline and will assist in the present arrangement, as will be noticed by the Replies in this, the initial number for 1885.

Our plan, as outlined below, has received the approbation of all to whom we have submitted it, and we shall, during the coming year, have the co-operation of the most prominent, progressive and successful apiarists of America, many of whom desire not only to reply to the queries of others, but to propound questions upon which it is desired to obtain the opinions of "the knowing ones."

All are invited to send us questions, brief and to the point, which are of general interest. These will then be printed and sent to those who may be selected by us, and several answers will duly appear with the question in the Bee Journal, giving the individual views of those whose names appear with each answer, thus affording all our readers an opportunity to compare views, criticize and form new queries. This will bring out all the light on the subject, and make a department that will be very interesting and instructive; and, if we mistake not, one that will be enthusiastically welcomed by our readers generally.

This department is not intended for advertising any one's wares—therefore, questions concerning the manufacture of goods for sale, are not appropriate—not being of general importance. Send such questions to the supply dealer for private reply.

From the many Queries now on our desk we have selected those in the next column for the initial number of the Bee Journal for 1885, to which the answers are appended as given by the persons whose names are connected thereto.

Food for Bees in Winter.

Query, No. 1.—How much food does each colony of bees require, in order to winter successfully?

Messrs. Dadant & Son answer: "For the winter proper, a colony can be brought through with 20 pounds of honey, or even less; but to take them to the next crop, requires not less than 25 to 35 pounds, according to season."

Prof. A. J. Cook says: "If to last from October until May, when fruit trees bloom, 30 pounds is none too little; from November to April, in a good cellar, 10 pounds is more than abundant."

James Heddon remarks as follows: "It being my opinion that when we arrange the conditions so as to certainly prevent disease, they will also prevent the possibility of breeding until taken from the cellar. I think that 15 pounds of stores will prove to be the outside quantity needed, to last until the bees are on the wing to remain out-doors. I really think we may get the amount down to 3 or 5 pounds."

W. Z. Hutchinson says that "from 10 to 15 pounds is a great plenty to carry a colony through the winter in a cellar. If unprotected, out-of-doors, twice that amount may be needed in a cold winter."

Dr. G. L. Tinker replies thus: "No colony should have more food than it will probably consume from November until the following May. Twenty pounds is enough for in-door wintering."

G. W. Demaree says: "I have found that bees will winter on much less food than they really ought to have. My strongest colonies are always those which have an abundance of stores. From 30 to 34 pounds to the full colony gives me the best results."

G. M. Doolittle says: "That depends on the size of the colony and the temperature of the cellar or house. In a temperature of 45°, I allow 10 pounds for small colonies and 15 pounds for good ones, when I expect to attend to their wants as soon as set from the cellar. If to last until flowers come again, from 20 to 25 pounds is none too much."

Bees Uneasy and Roaring.

Query, No. 2.—Dec. 16 was cold and windy, with the thermometer at zero; next morning it stood at 20 degrees above, the wind has ceased, and the bees were roaring as if it was in June. What caused the uneasiness? Is it a sign of diarrhea?

James Heddon responds thus: "I think that the roaring was caused by the previous low temperature, and perhaps the wind moved some loose fixtures that were about the hives. The roaring is no positive sign that bee-diarrhea is present or will follow."

Messrs. Dadant & Son reply as follows: "We have many times noticed this phenomenon. We do not know exactly what causes it, but it is not necessarily a bad sign; at any rate, it is not a sign of bee-diarrhea."

Dr. G. L. Tinker says: "In the case referred to, the bees had probably suffered from the cold winds, and had become restless. It is not a sign of bee-diarrhea unless the cause should be long continued with but slight abatement, when the bees would gorge themselves and diarrhea would be likely to result."

G. M. Doolittle says: "The question is indefinite. Were the bees in the cellar or on summer stands? Also, no number of colonies are given. I will venture: perhaps the bees had taken honey into the cluster which always causes a merry hum to be heard, and if so, could be no sign of diarrhea."

Prof. A. J. Cook says: "I think that it was caused by the previous cold. Too much heat or too much cold will irritate bees when confined."

W. Z. Hutchinson remarks: "When the cold is intense, the bees sometimes make a 'roaring' in exercising themselves, in order to keep warm. It is possible that the cold was the cause of the roaring, and the bees had not yet quieted down by the next morning."

G. W. Demaree remarks as follows: "Mention has heretofore been made of this state of things in the bee-hive, supposed by some to be caused by an effort on the part of the inmates of the hive to raise the temperature, which had fallen so low as to endanger the life of the colony. In our climate the temperature sometimes makes a fearful dive below zero for a few hours at a time, such a dip we had on the morning of Dec. 18, 1884, just two days later than the date mentioned in the question. It was 4 degrees below zero, and in just 48 hours it was rising. My bees in single-walled hives have never shown any signs of disturbance after passing through the trying ordeal. Bees never 'roar' in cold or cool weather in winter, except when disturbed, and that they ever 'fan' with their wings (which produces the roaring sound) with the purpose of raising the temperature, I confess to a great deal of incredulity. That they sometimes 'fan' to expel damp air from the interior of the hive, I have the best reasons to believe, and I doubt not that they sometimes make use of their wings to expel the cold air from the interior of chaff-protected hives in case of a sudden rise of temperature, leaving the air on the inside of the hive colder than the external atmosphere. If I am right in this, it would give a reasonable 'cause' for the 'roaring' named in the question. Bees threatened with bee-diarrhea are always stupid and dull, so far as my limited experience goes."

☞ Our rates for two or more copies of the book, "Bees and Honey," may be found on the Book List on the second page of this paper. Also wholesale rates on all books where they are purchased "to sell again."

CORRESPONDENCE

For the American Bee Journal.

Our Wintering Trouble.

G. M. DOOLITTLE (40—80).

At last Mr. Heddon and myself can agree on our wintering trouble, or at least very nearly so, for on page 773 of the BEE JOURNAL for 1884, I find these words under the signature of James Heddon: "Unless, perchance, breeding in confinement should prove to be the cause," by which is meant the "cause," as I understand him, of all our wintering troubles. This coincides with what I have claimed for years, that pollen cannot be the "prime cause," inasmuch as I believe that the bees of mature age *only use it as a preparation*, which, together with honey and water forms the food for the larvæ or immature bees; also, that when so prepared, bees of mature age sometimes partake of this chyme or prepared food, but never except when there is brood in the hive. I also believe confinement to be the prime cause; breeding in confinement the secondary.

Having given the above belief or statement, I now wish to give the readers a few facts coming under my observation, which go to prove that such statement is correct; for a statement is always valuable only as it is backed up by facts. Right here I wish to say that whenever I use the word pollen, I use it in the sense of bee-bread which is stored in a solid mass in the cells, and not as floating particles of pollen in the honey, should future experiments prove that there was such pollen contained in the honey. If such should ever be found in the honey, then we will have to call honey an adjunct cause, for the reason that this floating pollen and the honey are so inseparably connected that a distinction between the two cannot be made by the ordinary bee-keeper.

The first fact to which I wish to call the reader's attention, as bearing on this winter question, is that the intestines of the newly hatched bee are filled with pollen when it emerges from the cell; in fact this pollen is easily seen with the naked eye, in the larva, before it is sealed over in the cell, and the first thing that the young bee desires to do on the first flight (which occurs where all is favorable when the young bee is about six days old), is to relieve the abdomen of this pollen mass, which accumulated when the bee was consuming food in the larval state. When there are large numbers of these young bees, uneasiness is sure to exist in the colony until a chance of flight occurs, after which quiet is again restored for a few days, or until another lot of young bees feel the need of a flight.

To illustrate: My garden is about four rods southeast of my apiary, so that when the wind is northwest (as it nearly always is here in New York when the atmosphere clears up after a long continued spell of dull, rainy weather), bees in flight are driven over this garden. Here I often have glass covered boxes to promote the growth of early and tender vegetables, and these glass-covered boxes have given me some idea relative to bee-diarrhea, which I should probably never have ascertained in any other way. At one time, after a week or more of cold, cloudy, misty weather in the latter part of June, I noticed that the bees were very uneasy about the hives, in several cases the hives being fouled about the entrance. As the morning was still cloudy, no bees were seen flying except those at labor, their labor being shown by their going too and fro from the entrance in a straight line, while young bees always circle near the entrance to mark their location.

Having noticed this condition of affairs, I went to the garden to work, where I worked until about eleven o'clock, during which time I had moved all the glass-covered boxes, hoed the vegetables and returned the boxes. As I was returning the last of them, the sun commenced to shine, when I soon saw spots of excrement from bees on the glass, which, up to this time, had been perfectly clean. Hearing a loud humming, I went to the apiary, thinking, perhaps, that the bees might be swarming, but instead I found hundreds of young bees flying from nearly every hive, some of which was so loaded with feces that they could scarcely rise from the alighting-board.

When next I went to the garden, about noon, the glass there was so befouled that I could scarcely see a plant through them, while not a spot had appeared, with lots of field bees flying for more than four hours previous to eleven o'clock, thus showing conclusively that it was only the young bees that were suffering from the bee-diarrhea; for if the old or mature bees had partaken of pollen, some spots would have appeared on the glass before eleven o'clock, as all had been confined to the hive for a week or more previous to this time.

Since then I have noticed the same thing many times, yet always under like circumstances. Again, during the past November we had two weeks of quite cold weather, after which there came a warm day so the bees could fly. Noticing previous to the cold spell that a few of my colonies had considerable sealed brood in their combs while others had none, I thought to watch at this time and see if I could not learn something. As the day grew warm, the first bees to fly were those from the colonies having brood in them, and as these bees flew, the covers to their hives and other hives near them, became soiled with excrement which soon dried in the sun. After these colonies had finished their general flight, the others having no brood in them, they commenced to fly, and while they flew nicely, yet I failed to find a single spot of fresh excrement or anything that looked like bee-diarrhea; thus again proving that it was only the young bees that were affected. How I was led to know which colonies were breeding during the last of October, was that a few colonies were carrying in pollen quite extensively at that time, while others were not.

Once more: Several years ago, about the middle of January, I found a colony in my yard (I wintered all my bees on the summer stands at that time) which was very uneasy, and as a warm day soon occurred, I opened the hive to find the cause of the uneasiness. To my astonishment I found brood in four combs to the amount of 200 square inches. As I had never seen so much brood in a hive before at this time of the year, I kept close watch of them to see what would become of it. After this warm day, and the consequent flight, the bees were quiet (I examined them every day) for a week, when they became uneasy, and by the end of the second week, the hive was a perfect roar. If a corner of the quilt was raised, or the entrance uncovered from snow, the bees would rush out, void their excrement, and die on the snow.

At the end of 24 days there came a chance for a flight again, when I once more opened the hive. I found the bees reduced about one-half, the dead lying on the bottom-board, while the amount of brood had changed very little. I noticed that the bodies of a part of the dead bees were quite small, and remarked about it to my father, while others were very much distended, the small bodies looking like old bees, and those having distended bodies looking like bees from 10 to 20 days old. Of one thing I was certain, which was, that all of the bees which were then in the hive and flying from it, none were old bees, and all not having emptied themselves were so loaded that they could scarcely fly. It again turned cold, and kept so until March 20, but ten days previous to this the colony had perished, leaving only a handful of white, fuzzy young bees between the combs, the rest being dead on the bottom of the hive.

In all of the above cases there is conclusive proof, to my mind, that the secondary cause of bee-diarrhea, if such it can be called, was only the natural consequence (which always must result from the larva of the bee being fed on a food largely composed of pollen) of the confinement of the young bees at a time when nature required a day warm enough for them to fly; or, in other words, the cause is brood-rearing in confinement. The only time that I know of in which all of the bees in a hive suffer from bee-diarrhea at once, is where, in connection with brood-rearing, the bees are confronted with starvation, either imaginary or otherwise, in which case the chyme is passed around by the nurse bees as a food to sustain life, when all suffer alike if no opportunity for a flight relieves them.

From the above I think that Mr. Heddon, or any one else, can trace all losses of bees during cold weather to confinement and brood-rearing during the winter. When Mr. H. first objected to "my confinement," he cited me to bees in Indiana and elsewhere which had the bee-diarrhea badly and died before they had been confined three weeks. Does any one know whether those bees had brood in their hives at the time their confinement commenced? Unless good proof can be given that they did not have brood, I shall claim that they did, as my experience shows that such must have been the case; and if so, the confinement would have been as great to them as it would have been to other colonies suffering from bee-diarrhea on March 1, caused by brood-rearing being commenced six weeks previous.

The idea is that nature requires that the young bee should fly and empty itself at the age of from 6 to 12 days, and if from confinement by cold, or any other cause, it cannot do so, a "breeze is raised" where many such bees are confined. This results in the normal condition of the colony being broken up, a desire seizes them to get out, large quantities of honey are consumed, and brood reared extensively in the vain hope to thus keep their numbers good by replacing those which are dying daily. If a chance now occurs for them to fly, and is continued every two or three weeks, the trouble is partially averted, but weakened colonies in the spring is the result. If, however, the confinement continues, the old bees are worn out by this constant restlessness, while the young bees either get out and die or soil the combs, hive, and the other bees until all perish together.

Now, as I said two or three years ago, I can see no other "prime cause" for this state of affairs but confinement; for where bees fly every two or three days no such thing can exist. Because some colonies can stand a period of confinement of five or more months, it does not alter the case in the least; for a steady, unbroken confinement will sooner or later use up the most normal colony, while a flight every two or three days will keep any colony in health. This must be conclusive to all, it seems to me. What we want to know is, in what condition can we place our bees at the beginning of winter so as to avoid brood-rearing as the great secondary cause of bee-diarrhea, or any other of the minor causes which may tend to bring on restlessness during the long confinement which they must often pass here at the North during the cold months of the year. At present I think that no brood in the hive later than Oct. 1, with plenty of stores of sugar syrup stored close about the cluster, together with a good winter repository or chaff hive, gives us the most successful outlook.

Borodino.⊙ N. Y.

☞ The Mahoning Valley Bee-Keepers' Association will hold its next meeting in the Town Hall at Newton Falls, O., on the third Thursday in January, 1885. The meeting will be instructive as well as interesting. E. W. TURNER, *Sec.*

L. CARSON, *Pres.*

For the American Bee Journal.

Michigan State Convention.

W. Z. HUTCHINSON (68—94).

The Michigan State Bee-Keepers' Association held its 19th annual meeting on Dec. 10 and 11, 1884, at Lansing. The first session was called to order at 10 a. m., with President Hutchinson in the chair. The first topic discussed was

REVERSIBLE FRAMES.

Dr. L. C. Whiting: Reversal causes the bees to attach the combs to the bottom-bar, and if not done too late in the season it causes the bees to remove the honey from the brood-combs to the sections.

O. J. Hetherington: A person needs experience to know when to reverse frames. Reversible frames, of the style which I use, are an advantage in moving or shipping bees, as the frames require no fastening.

A. I. Root: I am inclined to think that reversible frames are an advantage, but none of the devices yet offered meet my approval. The objection to the Hetherington style is that it does away with the lateral movement, and unless the combs are unusually free from bulges, bees are crushed when the combs are reversed.

Dr. A. B. Mason: If I could find a satisfactory device, I would adopt reversible frames.

Some one said that bees give their cells an upward slant, and asked if reversal did not cause trouble by giving the cells a downward slant. Several replied in the negative, and gave instances where the combs had been reversed in transferring and no harm resulted. Comb has been filled with honey and brood even when in a horizontal position.

T. M. Cobb: I have reversed the combs, and the bees fastened them to the bottom-bar, but did not remove the honey to the sections. It was late in the season.

A. I. Root: It is possible that reversal too early in the season may cause trouble the same as does spreading the brood too early.

James Ure: I object to reversible frames because they give the cells a downward slant, in some styles the lateral movement is destroyed, and because they cause the bees to carry their best honey, which is well ripened, into the sections, and fill up the brood-combs with a poor grade of late-gathered honey.

Dr. Whiting: A neighbor of mine who uses reversible frames, received, upon an average, 10 pounds more honey per colony than myself. I do not use them.

Geo. E. Hilton: Were his bees left as well supplied with honey as your own?

Dr. Whiting: They might not have been; they certainly had more brood, and if they lacked honey, it was because it had been stored in the sections, and had been sold for twice as much as it would cost to buy sugar to winter them, and the sugar is a safer food than honey for winter.

Prof. A. J. Cook: If we can get the honey into the sections, have the brood-combs full of brood, and the combs left empty in the fall so that sugar can be fed; if we can receive all these advantages by using reversible frames, they are certainly a great thing.

As President Hutchinson found it somewhat difficult to preside and "take notes" at the same time, Vice-President Taylor, by request, took the chair.

TWO ENTRANCES.

Some one asked if it was advisable, when using hives more than one story high, to have an entrance for each story. Answered in the negative. Such entrances allow the escape of heat and invite the attacks of robbers. One entrance is sufficient, and that should be at the bottom.

GETTING BEES STARTED IN SECTIONS.

A question was asked upon the above subject, and answered by Dr. Whiting as follows: If bees are getting honey in such quantities that they begin to build new, white brace-combs they are ready to begin in the sections. Sections put on before this time will only be soiled, not filled. A colony is sometimes found which is very slow in beginning work in the sections. It can usually be started by giving it two or three sections, with the adhering bees from some colony which is well started in the sections.

Adjourned to meet at 1:30 p. m.

AFTERNOON SESSION.

The Convention was called to order at 1:30 with Vice-President Taylor in the chair. The first topic was

SEPARATORS.

President Hutchinson: To dispense with separators use sections not more than 1¾ inches wide, fill them full of foundation, and do not give the bees too much room.

Dr. Whiting: If the colony is weak, or honey comes in slowly, the combs are likely to be bulged.

Secretary Cutting: I once took a nice section of honey which was produced without separators, by one of our prominent apiarists, carefully scraped and washed away the honey from the foundation, put the section on one of my hives, and had a second comb of honey built upon the same piece of foundation.

President Hutchinson: I fail to see the point, I do not think that the thickness of the foundation has anything to do with the straightness or evenness of the combs when no separators are used, and you remember that Mr. Doolittle found one sample of foundation to be even thinner than natural comb.

T. M. Cobb: By using sections only 1½ inches wide, I have, for two seasons, succeeded in getting straight combs without separators.

BEST WIDTH FOR SECTIONS.

President Hutchinson: I used, the past season, two widths of sections, one width was 1½ inches, the other the merest trifle less than 1¾ inches (7 to the foot), and so far as the straightness of combs is concerned, there is no appreciable difference in the widths; the thinner combs are sealed over quicker, but whether this is of sufficient advantage to give the 1½-inch size the preference, will require at least another season to enable me to decide.

WIDE FRAMES VS. CASES.

A. I. Root: My preference is for the wide frame, or for such a style of case that the sections are protected upon all sides, for, in our locality, propolis is so plentiful that everything is soon covered with it.

Dr. Whiting: My preference is for the wide frame, but I want one in which the top is removable, so that the sections can be taken out with less trouble.

A. I. Root: Many bee-keepers use a "follower" to remove the sections from both wide frames and cases.

T. M. Cobb: I have used wide frames for two years, but they are now stowed away upstairs, where they are likely to remain. I use the Heddon case, and like it very much.

Prof. Cook: I have used both wide frames and cases, and I must say that I think Mr. Cobb is justified in making his remarks. I have used the Heddon case during the past season, and I must say that I like it.

President Hutchinson: It was not until I saw the Heddon case that I could be induced to go into the business of producing comb honey. Objection has been made to the bee-spaces between the sections, and in Mr. Root's locality it has weight, but in our locality the bees do not put propolis upon smooth surfaces unless they are in contact, hence the top and bottom bars of the sections remain unsoiled. If the sections touched each other, bees would be killed when one case is placed over the other.

M. S. West: I have used both wide frames and cases, and I prefer the wide frames.

R. L. Taylor: I have used wide frames, the Deane system, and the Heddon case; and after using the latter for two years, I could not think of giving it up for anything else.

Secretary Cutting: I can see one objection to the Heddon case; it has no outer case, and the bees in the surplus department are more likely to be affected by changes of temperature. The hives can be shaded, but I should think that the cool nights would drive the bees from the sections.

President Hutchinson: We shade the hives. Mr. Cutting should also remember that there is a "heat within" as well as "without," and that this heat can escape more readily when there is no outer case. Mr. C. would not put on an overcoat to keep himself cool, would he? The bees do not leave the sections in the coolest nights that occur during the honey season. It is doubtful if they could, unless they went out of the hive.

J. H. Robertson: I have used every crate or case that has been introduced into Michigan, and I have never found anything yet equal to the Heddon case. It is cheap, handy, and substantial, and keeps the sections neat and clean, and they are easy of removal.

QUEEN-EXCLUDING HONEY-BOARDS.

It was asked if a queen-excluding honey-board was needed with the Heddon system.

R. L. Taylor: No, it is not; but a honey-board of some kind is necessary or the bees will build brace-combs between the sections and the brood-frames. When a swarm is hived, at least one frame of comb should be given it, if sections are given it at once filled with comb foundation drawn out, otherwise the queen will invade the sections.

President Hutchinson: My experience agrees with Mr. Taylor's, but I cut short all these troubles with a queen-excluding honey-board.

TIERING-UP SECTIONS.

President Hutchinson: When the first case is one-half finished, I raise it and put another case under it, when the second case is one-half finished, another case is added next the hive, and by the time the last added case is one-half finished, the top case is ready to come off; and unless separators are used, it is necessary to remove a whole case at once.

Geo. E. Hilton: I do not use separators, yet I can remove part of the sections as soon as they are finished, and by shoving the unfinished sections all to one side, and placing a finished side next to the empty sections, I have no trouble.

PUTTING FOUNDATION INTO SECTIONS.

Mr. R. L. Taylor explained the working of a Parker foundation fastener. Secretary Cutting can put in the foundation more rapidly with a fastener worked by the foot. Dr. Kezartee used water instead of honey as a lubricant when putting in foundation. One lot of foundation fell down, and he could give no reason. A. I. Root said that it might have been caused by the sections being damp. Mr. Taylor agreed.

SECRETION OF WAX.

Prof. Cook: There is no doubt in my mind that bees do not secrete wax when they have no use for it. I have hived swarms upon empty frames, and those having combs stored the most honey.

Pres. Hutchinson: Was it comb or extracted honey?

Prof. Cook: Extracted.

Pres. Hutchinson: Have you compared the results of hiving bees upon foundation (not combs) and upon empty frames?

Prof. Cook: No, I have not.

Pres. Hutchinson: You have probably read of my experiments upon this subject. Now, had your brood-frames been empty, your surplus department filled with foundation or comb, and the two apartments separated with a queen-excluding honey-board, do you think you would have secured any less honey?

Prof. Cook: I do not know. Perhaps more honey would have been stored had the whole hive been filled with comb, but more of it would have been stored in the brood-nest instead of in the surplus department.

Pres. Hutchinson: Well, if the non-use of foundation in the brood-frames will secure the storing of the honey in the sections instead of in the brood-nest, I am in favor of the plan. I shall conduct some more conclusive experiments during another season.

Adjourned to meet at 7:30 p. m.

EVENING SESSION.

The evening session was called to order at 7:30 by Vice-President Taylor, and an essay on Carniolan bees from A. J. King was read.

Pres. Hutchinson read a private communication from Prof. Hasbrouck. His views in regard to the Carniolan bees agreed with those of Mr. King. The Carniolans build and cap their honey similar to the old-fashioned grey bees. They are very prolific, and if allowed to do so, would swarm a great deal. He considered them the best bees that he had ever tried.

A letter from Mr. Shuck, of Iowa, was also read, in which he agreed with Messrs. King and Hasbrouck, unless it was in regard to their swarming propensities; but he said that he was not the proper person to judge of them in this respect, as bees seldom swarm when under his care. He thought it quite probable that they were a cross between the German and Italian varieties, which had become fixed from long years of breeding.

Pres. Hutchinson: I obtained the daughter of an imported Carniolan queen about the middle of last summer. The bees are very gentle; but after they were old enough to gather honey, there was none to gather, so I know nothing of their honey-gathering qualities.

A. I. Root: I have never tried the Carniolans, but Mr. Benton has said so much in favor of them that I shall give them a trial.

HOW TO GET BEES OUT OF THE SECTIONS.

Pres. Hutchinson: I can smoke most of the bees from the case, then I take it off and shake out nearly all of the remaining ones, after which I carry it into the honey-house, and set it up on end. The few straggling bees soon leave the case for the windows, where they crawl to the top and escape through a small space under the wire cloth that is tacked over the outside of the window.

R. L. Taylor: I raise one end of a case, smoke the bees, and most of them will crawl from the raised case into the one below it. I then carry the case into a tent, and the bees escape through a hole in the top of the tent.

J. H. Robertson: I drive down what bees I can with smoke, then set the case up on end in front of the hive, and with smoke and a bunch of June grass I can drive out the rest of them in 2½ minutes.

PREVENTION OF AFTER-SWARMING.

Pres. Hutchinson described the Heddon method, and said that by always carrying the old hive to the end of the row, when giving it a new location, but few queens were lost.

Prof. Cook read communications from Mr. Frank Benton and Mr. S. M. Locke, for which a vote of thanks was tendered.

Adjourned to meet at 9 a. m.

MORNING SESSION.

The meeting was called to order at 9 a. m., Vice-President Taylor in the chair. Secretary Cutting read the minutes of the last meeting, which were accepted. Treasurer Cobb read his report which was also accepted. Mr. Cutting also gave a graphical report of the apiarian exhibit at the Michigan State Fair, and advised a few changes in the premium list. A committee consisting of H. D. Cutting, R. L. Taylor, W. Z. Hutchinson and M. H. Hunt were appointed to meet with the Executive Board of the Agricultural Society, and work for the advancement of apicultural interests.

The election of officers resulted as follows: President, Prof. A. J. Cook, Lansing; first Vice-President, R. L. Taylor, Lapeer; second, Dr. Kerzartee, Ceresco; third, L. C. Whiting, East Saginaw; Secretary, H. D. Cutting, Clinton; Treasurer, M. H. Hunt, Bell Branch.

As a compliment to the North American Bee-Keepers' Society, it was decided to hold no State meeting next year, but to meet in conjunction with the North American Society when it holds its next annual meeting at Detroit. It was also decided that all members of the State Association and all officers of the local societies be considered delegates to the next meeting of the North American Society.

THE POLLEN THEORY.

Prof. Cook: We have, for several years, tried preparing some of our colonies without pollen, and some with pollen, and those without pollen have wintered much the best. The pollen theory looks to me about like this: If the bees are quiet they eat little or no pollen, but if the heat or anything disturbs them, they then eat pollen, and bee-diarrhœa is the result. The pollen theory is unscientific. Bees are natives of warm climates, and so long as they can enjoy frequent flights all goes well; but when long confined, and compelled to subsist upon a food largely nitrogeneous in character, their intestines become overloaded. It is folly to say that mature bees do not eat pollen unless they are breeding. I have dissected bee after bee at a time when no brood-rearing was going on, and found their intestines loaded with grains of pollen. Prof. Beal even pointed out the plants from which some of the grains were gathered. It is also just as foolish to say that bees ever void their fæces in a dry state.

W. Z. Hutchinson: It is generally admitted that bees do winter well sometimes with pollen in their hives, i. e., when they settle down into that quiet state in which they consume but little food; now, which is the primary cause of diarrhœa, pollen or "inability to hibernate?" Do the bees hibernate because they consume no pollen, or do they consume no pollen because they hibernate? Which comes first in the line of causes?

Prof. Cook: I think it is eating pollen that makes them uneasy, but our unsuitable temperature may start them to eating pollen.

J. H. Robertson: I do not think pollen causes bee-diarrhœa.

Prof. Cook: You keep your bees in a cellar in which there is a stream of water which equalizes the temperature, hence the bees are quiet and consume no pollen, which only substantiates the pollen theory.

Dr. Whiting: When the honey is sometimes largely impregnated with pollen, the remedy is sugar syrup.

Dr. A. B. Mason: It is no longer a "theory" with me. I know that pollen is the cause of bee-diarrhœa. I have experimented so many times by giving a large quantity of pollen to some colonies, thereby causing bee-diarrhœa, and keeping other colonies from having it, by taking away the pollen, that I know whereof I speak. If necessary, I give the bees empty combs and feed them sugar. I do not winter the bees in the cellar to prevent their having bee-diarrhœa, but to save the consumption of stores.

W. Z. Hutchinson: I have had every colony out-of-doors die of diarrhœa except those having sugar stores; in the cellar, colonies with sugar stores have had scarcely a handful of dead bees upon the bottom-board, while those standing by their sides with natural stores were dead with diarrhœa.

Mr. A. I. Root referred to his greenhouse experiments of years ago. Bees could not rear brood without pollen, and when given pollen, not only brood but diarrhœa was the result.

W. Z. Hutchinson: Although the most practical way, at present, of preventing bee-diarrhœa, appears to be the removal of the honey and pollen and the feeding of sugar, there is one point which I do not think should be lost sight of, viz: bees do sometimes pass a long winter in a healthy condition with an abundance of pollen in the hive. It may be easier to teach the bees to let the pollen alone than to remove it.

Prof. Cook: I think that bees sink into that quiet state more readily when placed in a cellar, the temperature of which is about 45° above zero.

R. L. Taylor: I have tried leaving out the pollen and feeding sugar, and I am strongly in favor of it. I put my bees upon empty combs, and then feed them sugar syrup. To do this, I place a hive of empty combs upon the stand occupied by a colony, quickly remove the combs and shake the bees in front of the hive of empty combs. A cloudy day, with the thermometer at about 60° above zero is the best time for this work. To feed, I place an ordinary tin pan in an upper story, fill it with syrup and cover it with a cloth.

Dr. Mason feeds bees by pouring the feed into the hive.

CELLAR VS. OPEN-AIR WINTERING.

W. Z. Hutchinson: We often have to take honey, in the spring, from colonies wintered in the cellar and give to those wintered out-of-doors.

Dr. Mason: I always weigh my colonies when I put them into the cellar, and again when I take them out; and one winter in Iowa, those in the cellar lost only 4½ pounds in weight per colony, on an average, while those in the open air consumed 23 pounds.

J. H. Robertson: I weighed 100 colonies, one spring, the next day after they were set out, after being confined 151 days, and they had lost on an average 7 pounds per colony.

A Member: The greatest loss, per colony, in my cellar, is 9 pounds, the smallest 3 pounds.

James Ure: I winter my bees in chaff-hives, and the loss in weight, in wintering them, is about 8 pounds per colony.

Mr. R. L. Hewitt, who is connected with the Statistical Bureau, gave a talk upon statistics. He said that bees, honey and wax were not among the products reported upon by the crop correspondents, and legislation would be required to have them placed upon the list, and it was decided that the Executive Board of the Association should act as a committee to secure the proper legislation.

Prof. Beal, of the Michigan Agricultural College, gave an interesting talk upon the agency of bees in fertilizing blossoms, and then the meeting adjourned until 1:30 p. m.

AFTERNOON SESSION.

The Convention was called to order at 1:30, with Vice-President Taylor in the chair. The first query was, "What is the best size of frame for queen-rearing?"

W. Z. Hutchinson: For queen-rearing exclusively, I would use a small, square frame, not more than 10 inches square, possibly not more than 8 inches.

"Is water in the cellar an advantage where bees are wintered?"

Prof. Cook: Yes, if it is not stagnant.

"How far apart shall hives be placed?"

R. L. Taylor: If they face in different directions, or if there are other objects to assist the bees in determining which hive is which, they can be placed closer together than when in long rows.

Jas. Ure would have them 9 feet apart.

Dr. Mason: I prefer 6 feet.

Dr. Whiting: I have found no objection to putting them 6 inches apart.

Prof. Cook: When honey is exposed upon our back porch, the bees are soon swarming around the back porch of Prof. Carpenter's house as well as our own, and our houses are several rods apart, but they are alike in appearance.

W. Z. Hutchinson: I presume that the bees find the way to their home much in the same manner that we do to ours; and I would have the hives only so far apart as to give us plenty of room for working with the bees.

GETTING NICE HONEY,

Upon request, Miss Wilkins told how she and her sister managed to secure such nice honey. They used the Doolittle system and removed the honey as soon as sealed. They use the nicest, white poplar sections that they can procure, as they thought that this made a great difference in the appearance of the honey. The propolis is not only scraped from the sections as soon as they are taken from the hive, but all stains caused by the propolis are carefully scraped away with glass. Another and important reason for their honey being so nice, is the source from which it is gathered, viz: the willow-herb.

"Shall colonies be placed upon the same stand that they occupied the previous season, when taken from the cellar?"

Messrs. R. L. Taylor and W. Z. Hutchinson said: "It is immaterial."

ALSIKE CLOVER.

W. Z. Hutchinson had tried cutting it when it first began blossoming, in hopes of bringing it into bloom again after the basswood had blossomed, but it did not start again. The season was very dry.

HIVING BEES.

Dr. Whiting shakes the bees into a large tin pan; but few bees take wing, and the sides are so slippery that they do not crawl out. W. Z. Hutchinson uses, instead of a pan, a large clothes-basket with a cover of burlap sewed to one side.

VENTILATION.

Dr. Whiting said: Raise the hive from the bottom-board. R. L. Taylor said: If the bottom-board is fast, raise the cover. Dr. Mason agreed.

Prof. Cook read an interesting paper entitled "Notes for the Year."

REPORTS.

52 persons reported, spring count.	1,927
52 persons reported, fall count.....	2,884
Beeswax....................,..lbs..	634½
Comb honey.......................lbs.	65,506
Extracted.......................lbs.	22,892

20 persons use the standard Langstroth frame; 32 use odd size frames; the majority use a frame very near 10x14; 11 winter their bees in cellars; 32 winter them on summer stands; 3 in bee-houses; 16 have all Italian bees; 3 have all black bees; 30 have all hybrids and Italians; and 3 have all Syrians.

Rogersville, Mich.

For the American Bee Journal.

Reversible Frames.

JAMES HEDDON (400—460).

Since the subject of reversing brood-combs has been agitating the minds of bee-keepers, numerous are the styles of frames made and proposed for that purpose. It is with these frames as with hives, honey-extractors and other implements, utterly impossible to devise any one style of reversible frame which will possess all the advantages of all other styles.

About one year ago I devised the style of reversible brood-frame, as shown by the illustrations. I made 8,000 of them entirely for my own use, and succeeded in getting about one-half of them into use the first season. I have tried them one year, and like them sufficiently well that I now expect to continue their use exclusively with all future frames. I fully appreciate simplicity in every thing, and frankly admit that a frame which only needs to be turned over to reverse its comb, is better in respect to the simplicity of the frame; but the adaptation of such frames to the hive, and the way it must have its bearing, does not suit me.

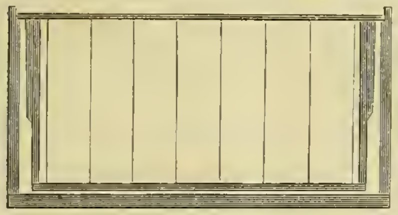
I presume there are yet some of the readers of the Bee Journal who are not aware of the proposed advantages of the reversing system. It is proposed to give us combs all solid with brood, thus securing the same amount of brood with an outlay of less capital. It is expected to become an aid in supplying a brood-chamber for breeding purposes only, and the surplus arrangement above to possess nearly all the honey. The field can act as our reservoir or storage-place for pollen.

Any system or combination of systems which will accomplish such a condition at all times of the year, either in its perfection, or nearly so, will, in my estimation, revolutionize bee-keeping. I do not say that my experiments prove that the reversing system will alone accomplish the results above mentioned, nor am I sure that these grand results cannot be attained without reversible frames; yet I have faith that reversing the brood-combs may yet become a great and practical help to their attainment. I am quite sure of what I wish to attain, and am also hopeful of accomplishing what I desire. Most certainly the more plain, simple and automatic the process, the better.

After one season's experience with reversible frames, I am strongly impressed that we have not, as yet, learned the proper and the best use of them. It is with them as with the advanced step from box-hives to movable-frame hives. One quickly learns what he can mechanically do with these frames; learns how easily he can remove the combs that they contain; but it requires years of experience to learn to move them at such times, and only at such times as will bring a blessing rather than a damage as the result of such removal. I have heard no one mention that if combs are reversed at such times as the workers are inclined to clog the brood-chamber with honey, that such reversal will only tend to increase the placing of more honey in the brood-combs. I think such is as true as that reversing them at a time when the bees tend to monopolize them with brood, tends to augment that condition of affairs. There are other varying conditions which must all be undersood, and by which all manipulations must be governed before we can decide in regard to the usefulness of reversible frames.

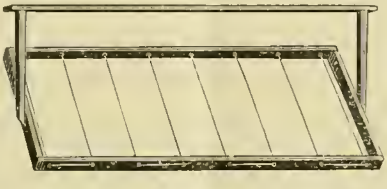
But there is another decided advantage to be enjoyed by one, if never but one, reversal. After the comb is completed, and is so attached to the frame at the top and part way down the end-bars as is entirely satisfactory to the bees, it will be found much more satisfying to the bee-master to have such comb as perfectly attached to the entire end pieces and bottom-bar. Such a straight, all-worker comb on wires, thus solidly built, is "a thing of beauty and a joy forever" to the apiarist who has had experience with hordes of useless drones (some of inferior blood, thus much worse than useless), combs breaking down, queens hiding between the bottom of the comb and bottom-bar, bees sticking there when trying to brush and shake them from the combs, etc.

I will now give my reasons for preferring the style of frame illustrated, above all others that I have yet seen described. At a glance, almost any one can estimate the extra cost of constructing such a frame. I believe this frame to be worth several times more than the extra cost, more than the common non-reversible frame for only once reversing for the purposes just mentioned, if for none of the advantages hoped to be gained in the ways spoken of in the first part of this article.



Again, I much prefer this frame to the old style, even if I never reversed it at all: 1. I am not troubled with sagging top-bars; and the outer bar, the one which governs the uniformity of the bee-space, or Langstroth shallow air-chamber below the honey-board, never sags. If the inner top-bar sags, it does little harm, and when reversed, the sag is thus corrected as it straightens back to place, and the new top-bar (just from the bottom) will not sag. In reversing, I either shake off the bees or revolve the inner frame very slowly. I generally prefer to shake off the bulk of the bees, and I have found that on an average I spent five minutes to each hive (counting opening and closing) in performing the reversal of all the eight frames. Bits of comb and propolis bother but little, as the sharp corners of the wood pieces shave them away like a pair of shears.

2. It will be noticed in Fig. 1 that while the top and bottom bars of this frame position with the hive the same as other frames, the ends do not, and in this difference I find an improvement. It will also be noticed that the short end-piece is tapering, regarding its thickness. Now, as the whole end positions to the hive, the top is ¼ of an inch away from the hive end, the bottom of the short piece ⅜ of an inch, and all below that, ¾ of an inch away. This large opening, while it greatly facilitates in the rapid and easy withdrawal or insertion of the frame, is in no way objectionable, as there is no danger of the bees building combs in even so large and handy a space where such space is *no higher up* than shown in the illustration.



While this frame is of slightly less capacity or surface than the standard Langstroth frame, it has a greater brood capacity when reversed, and fits the same hive as the standard.

Dowagiac, ♀ Mich.

For the American Bee Journal.

Wintering Bees, Selling Honey, etc.

REUBEN HAVENS.

Out of 107 colonies put into the cellar in the fall of 1883, all came through alive except one, which the rats destroyed. I lost 3 colonies by spring dwindling, sold 23, and increased my apiary to 126 colonies. I never before had my bees in so fine condition for business as they were through June and July; and had all the season been as favorable as the last three weeks of June, the honey crop would have been immense; but about July 1 the flow ceased, swarming stopped all at once, and seven of my last swarms did not have sufficient honey, with all that they had gathered up to Sept. 15, to keep them from starvation. I have already lost 9 colonies, and I could not open a hive or feed without having a regular siege with robbers.

I have never put my bees into winter quarters with as little stores as they have this winter. I am feeding 12 colonies now, by placing partly filled sections on top of the frames and covering them with a quilt. I have 106 colonies put away in my cellar, which is so thoroughly ventilated that I would not hesitate to invite even Mr. Clarke to take a sniff of the air. I am trying to keep them in that "quiescent state"—"hibernation"—which is, I think, the key-note to successful wintering.

I secured only about 1,300 pounds of comb honey and 500 pounds of extracted honey. I have worked hard since I have been in this place (about three years) to make a home market for my honey, especially for extracted honey, and have secured a good custom. All of my extracted honey sold at 10 cents per pound, and I could use four times the amount that I had this season to supply the demand. One of my neighbors, a few days since, wanted 70 pounds, but I could not supply him. I offered to send away and get it for him, but his reply was, "No, I want your honey."

When I first commenced selling honey here, I offered nothing but a first-class article, and sold it at 10 cents per pound, and every one seemed pleased with extracted honey for a time, when all at once the demand ceased. On inquiring of the parties who were selling for me as to the cause, their reply was, that the people say that Havens is adulterating his honey, or he could not sell extracted honey so much cheaper than he sells comb honey. I explained why I could sell extracted honey cheaper than comb honey, and then I said to him, I will make the following a standing offer: "I will pay $5 for every ounce of adulteration that is found in any extracted honey that I sell." My sales commenced increasing again, and now I have a demand that I cannot supply.

I have made it a point to send out only a choice article, and to send samples of honey by persons visiting our place, and the result is that I am now receiving orders from private parties in Chicago, Hyde Park, and other places. I have not sent a pound to commission men in the last 4 years.

I extract the most from upper stories, and I keep it in the combs and extract only about as fast as called for, so that I always have it fresh and of good flavor. I seldom have granulated honey to heat and destroy the flavor. By the way, while so many are complaining of honey-dew this season, we have had none of it here, and the quality and flavor of the entire crop was most excellent.

Onarga,⊶ Ill., Dec. 12, 1884.

☞ It is proposed to hold an International Bee-Keepers' Congress on the World's Exposition Grounds at New Orleans, La., Feb. 24, 25 and 26, 1885. An interesting programme of subjects of great importance to every bee-keeper in America will be presented and discussed. The disposition of our honey product, with a view to secure better prices will be fully considered. At the same time there will be an Exhibit of Bees and Apiarian Supplies. At the time now selected, the Exposition will be at its best, and excursion rates low. The bee-keepers of our country should lay aside business for a week or two, and make every exertion to attend this Convention. Come prepared with facts, statistics and ideas arranged, to take part in its deliberations.

Dr. J. P. H. Brown, Augusta, Ga.
Dr. N. P. Allen, Smith's Grove, Ky.
W. Williamson, Lexington, Ky.
Dr. O. M. Blanton, Greenville, Miss.
P. L. Viallon, Bayou Goula, La.
Judge W. H. Andrews, McKinney, Tex.
W. S. Hart, New Smyrna, Florida.

For the American Bee Journal.

The Langstroth Bee-Spaces.

DR. G. L. TINKER.

The fact has been many times alluded to, and the experience of every bee-keeper will confirm it, that the bee-space so generally provided between the brood-frames and the sections, by the producers of comb honey, has many objectionable features. Very often it is filled up completely, save a few passage-ways for the bees, with a net-work of wax and honey. To take out the brood-frames of such a hive is almost as bad as the taking out of combs from a box-hive. Italian bees are very likely to fill up the space, and even black bees regard with disfavor the labyrinthine bee-spaces of such a hive by the effort to build continuous combs from the top of the brood to the top of the hive. That they cannot do it, is no fault of their instinct.

If the bee-space be made only ¼ of an inch in width, there will not be as much comb built in, but often enough to be an annoyance in taking out the brood-frames. Where the space is made ⅜ or ½ of an inch wide, as is usual on account of the changes liable to take place in the material of the hive, more comb will be built in, and hence, more time will be required to take out and return the brood-frames without the killing of many bees. The comb must be cut away, and so much time is taken as to make it a serious item in a large apiary if many hives are to be opened. Leaving out the question of time, the cutting away of the comb is no great trouble when nectar is coming in freely; but if not, there is no work about an apiary so aggravating to the bees, and so perplexing to the bee-keeper as the clearing away of these bits of comb and honey that the brood-frames may be handled without a slaughter of the bees. A good smoker will be needed, and often on quite gentle colonies.

Again, in tiering-up the section-cases, many bits of comb have to be cut away, time is taken, and work is set back. When it is said, therefore, that the bee-space of Langstroth is an annoyance, I dare say that not one will protest.

A hive properly constructed with continuous passage-ways effectually prevents the building of all brace-combs between the movable parts of a hive, and in a way that the practical management of a movable-frame hive is facilitated. Now we get all comb built into the sections, and enough white wax and honey saved to fill one or more; and in addition, the work of the bees is aided by providing direct passage-ways, and, hence, a real gain in the total product of a colony is the result.

After alluding to the "trouble" so often caused in hives "where more than one story is used," from the bees "building small combs between the upper and lower sets of frames," Father Langstroth says (see page 638, Vol. XIX) in the last article he wrote for the BEE JOURNAL, "Before giving up my apiary, I found that small boxes were much more readily filled by Italian bees when put directly on top of the frames; and that, however admirably the shallow chamber answered for black bees, the Italians plainly wanted nothing to do with it."

The only escape that any one can have in opposing so eminent an authority on the points herein set forth, is to champion the black bee; for the Italians do hesitate to go through the "shallow chamber" into sections, and will rather store in the brood-chamber to the exclusion of brood, and when all is full below, they often still hesitate or swarm. What is true of the noble Italians is as certainly true of black bees, only perhaps in a lesser degree.

Some ask why "the bees will not glue the sections together if no bee-spaces are provided?" I place the sections on slats in the same manner as the sections are placed upon the Simplicity case, and I have had no trouble of this nature, and have wondered much at the obstinacy with which this point has been held for the last two years. I say with Father Langstroth, that "bees glue up all spaces too small for them to pass through;" but the spaces where the sections rest on the slats are not large enough for a bee to get its head under, and what little propolis is placed on the outside, is not half as much as is placed on the sections of any case. As "gluing of the sections" has been the greatest objection urged against the use of continuous passage-ways, I trust this may be accepted as a conclusive answer.

Again, it is inquired "how it is managed to dispatch work while placing cases on top of each other and not crush the bees." In tiering-up the cases of sections, I proceed as follows: A wedge or chisel is inserted under the rear end of the section-case, to loosen it, when it may be lifted off at once and the empty case inserted; when near the front end of the hive the few bees that may be in the way are brushed off (I use a little, short hand-broom), but often not a bee will come up for a minute or two, so that the empty case could be set flat down. The partly-filled case is then carried over the empty one to its place, the whole operation requiring, perhaps, two minutes. The only skill required in the proceeding, is in the handling of the partly-filled case. As soon as it is lifted off, many bees will run out on the bottom. By a slight rocking motion of the case, as it is carried forward, not a bee will be killed or harmed in any way. The only care necessary being to look beneath the case just before the passage-ways are closed up to see that no bees are cut in two. As no bees can get in front, none will be killed there, and few would be killed if no great care was taken. No bees are ever "crushed," but if any are killed, they are cut in two, the same as by the edges of any case, only the chances for thus killing are very limited.

In all operations about a colony of bees a skill is required that can only be obtained by actual practice. To see an expert bee-keeper take the combs out of a hive appears to the novice a very easy thing; but let him step up to the hive and try his hand, and the chances are that he does not get a frame out at all on the first trial. And so in handling section-cases, some practice is required to handle them rapidly without killing many bees. One may tell just how it is done, but practice only can make an expert.

New Philadelphia, Ohio.

Convention Notices.

☞ The sixteenth annual convention of the Northeastern Bee-Keepers' Association will be held in the City Hall at Syracuse, N. Y., on the 21, 22 and 23 of January, 1885. The executive committee are determined to maintain the high standing and enviable reputation which the Association has justly gained in the past, and at the coming convention they propose to outdo all former efforts. The meeting will surely be the largest and most interesting ever held in America. No bee-keeper can afford to stay at home. All are invited. All implements of the apiary sent to the Secretary, will be properly arrayed to compare favorably with others on exhibition, and will be disposed of or returned, as the owner directs. Reduced rates for board at hotels.

GEO. W. HOUSE, *Sec.*
L. C. ROOT, *Pres.*

☞ The regular annual meeting of the Indiana State Bee-Keepers' Association will be held on Thursday and Friday, Jan. 22 and 23, 1885. The meetings will be conducted in the rooms of the State Board of Agriculture, on the corner of Tennessee and Market Streets, in Indianapolis, Ind. It is proposed to make this the most important and interesting meeting of bee-keepers ever held in the State.

FRANK L. DOUGHERTY, *Sec.*

☞ The eighth annual meeting of the Northwestern Illinois and Southwestern Wisconsin Bee-Keepers' Association will be held in Temperance Hall, at Freeport, Ill., on Jan. 20 and 21, 1885. JONATHAN STEWART, *Sec.*

☞ The Central Illinois Bee-Keepers' Association will hold its next annual meeting in Bloomington, Ill., on the second Wednesday in January, 1885, at 9 a. m.

W. B. LAWRENCE, *Sec.*

☞ The Willamette Valley Bee-Keepers' Association will hold its second meeting at La Fayette, Oregon, on the third Tuesday in June, 1885. All who are interested are invited to attend. E. J. HADLEY, *Sec.*

☞ The seventh annual meeting of the Nebraska State Bee-Keepers' Association will be held at Tecumseh, Neb., on Wednesday, Thursday and Friday, Jan. 14, 15 and 16, 1885; the first session beginning at 3 p. m. on the 14th. Notices will be posted in the Tecumseh depots, stating the hall in which the meeting will be held.

M. L. TRESTER, *Sec.*

Local Convention Directory.

Time and place of Meeting.

1885.
Jan. 8.—Champlain Valley, at Middlebury, Vt.
J. E. Crane, Sec.

Jan. 14-16.—Nebraska State, at Tecumseh, Neb.
M. L. Trester, Sec.

Jan. 14,—Central Illinois, at Bloomington, Ills.
W. B. Lawrence, Sec.

Jan. 14, 15.—N. E. Ohio & N. W. Pa., at Erie, Pa.
C. H. Coon, Sec., New Lyme, O.

Jan. 15.—Mahoning Valley, at Newton Falls, O.
E. W. Turner, Sec.

Jan. 17.—Marshall Co., Iowa, at Marshalltown, Ia.
J. W. Sanders, Sec., LeGrand, Iowa.

Jan. 20, 21.—N. W. Illinois, at Freeport, Ills.
Jonathan Stewart, Sec.

Jan. 21—23.—Northeastern, at Syracuse, N. Y.
Geo. W. House, Sec.

Jan. 22, 23.—Indiana State, at Indianapolis, Ind.
Frank L. Dougherty, Sec.

Jan. 27.—Cortland Union, at Cortland, N. Y.
M. G. Darby, Sec., Homer, N. Y.

Feb. 4.—N. E. Michigan, at Vassar, Mich.
W. Z. Hutchinson, Sec., Rogersville, Mich.

Feb. 24-26.—International, at New Orleans, La.

May 28.—N. Mich. Picnic, near McBride, Mich.
F. A. Palmer, Sec., McBride, Mich.

June 19.—Willamette Valley, at La Fayette, Oreg.
E. J, Hadley, Sec.

☞ In order to have this table complete, Secretaries are requested to forward full particulars of time and place of future meetings.—Ed.

SELECTIONS FROM OUR LETTER BOX

☞ Alfred Gale, Shelby,~o Ind., on Dec. 24, 1884, writes:

Bees have done moderately well here. I had 33 colonies, spring count, and increased them to 41 colonies. I sold $157 worth of comb honey, most of it having been gathered from white clover. But little fall honey was gathered in this locality.

☞ C. W. Young, Stratford, Ont., on Dec. 30, 1884, writes:

The January thaw came a few days ahead of time. The temperature is 60 degrees above zero, and my bees are having a good fly. There is but little signs of bee-diarrhea. Last winter, when they flew, it was bad.

☞ G. W. James, Meredosia,o+ Ill., on Dec. 30, 1884, writes:

Dr. Wackerley, of this place, has a colony of bees which, last summer, produced 372 pounds of capped honey, and that without any extra care or feed.

☞ Robert Osborne, Danville,o+ Ills.. on Dec. 31, 1884, writes:

My bees did very poorly this season, yet I think that they did as well as any in this section. I had 44 colonies in the spring, 4 of which were weak, so I got nothing from them. From the 40 and the increase I obtained 1,200 pounds of honey, a little over half of which was comb honey in sections. I increased them to 74 colonies, and had to feed 300 pounds of granulated sugar in order to get them in condition for winter.

☞ Hj. Stalhammar, Gothenburg, Sweden, on Dec. 12, 1884, writes:

Our season has been very favorable for bees and honey. The opening of spring was very warm, when it became cold until the end of May. In June the weather was very seasonable; honey "flowed," and swarms were numerous (5 or 6 from a single hive), nearly all of them prospering well by the use of comb foundation.

☞ Mrs. Sallie E. Sherman, Salado,⊙ Tex., on Dec. 22, 1884, writes:

I began the season with 16 strong and 4 weak colonies, the latter being queenless. Among them are some Italians, some hybrids, and a few blacks. I increased them to 51 colonies, and obtained 1,000 pounds of extracted and 600 pounds of comb honey, and I have left a sufficient quantity in each hive for winter stores. I use the new American hive. I havo sold 2 colonies of Italian bees, and all of my extracted honey at 12½ cents per pound, and nearly all of the comb honey at 16⅔ cents per pound.

☞ W. H. Smith, Mount Salem, Ont., on Dec. 28, 1884, writes:

I am highly delighted with the very interesting and instructive reading-matter which the Bee Journal contains, especially those able discussions as to the right method of wintering bees, but really I am in as great a dilemma as was one of the pioneer judges, who, after listening to a very elaborate statement of a plaintiff, gave judgment in his favor without hearing the other side of the question; whereupon, the defendant arose and prayed that his Honor would give him a hearing. His request was granted. The defendant produced such strong evidence that the Judge decided that he would give judgment for him too, and that the constable would pay the costs. So I shall likewise give judgment in favor of the able debaters on the question of wintering bees. I trust that the discussions will be the means of diffusing more light upon this great and important subject, and, in the mean time, I shall, unlike the pioneer Judge, volunteer to pay the costs in installments of $2 a year for the Weekly Bee Journal.

☞ W. H. Stout, Pine Grove,o+ Pa., on Dec. 28, 1884, writes:

We have just passed through a very cold spell, but it is now moderating. The snow and ice are melting, and a heavy fog prevails. I found my bees all in good condition to-day, and helped them in cleaning out the dead bees, etc., from the bottom-boards. It is not warm enough for them to fly, so the hives are kept shaded to keep them from venturing out. I have 42 colonies all on the summer stands. Honey sells slowly,owing to the depression in business and lack of employment. I am getting 15 cents per pound for extracted, and 20 cents per pound for comb honey.

☞ Wm. Seitz, Hustisford,o+ Wis., on Dec. 31, 1884, writes:

Last winter I put 24 colonies into winter quarters, and lost 6 in wintering and one by robbing. Last spring I bought 10 colonies for $35, and sold 6 colonies for $42. I began the past season with 21 colonies, and by natural swarming and by dividing them I increased them to 47 strong colonies. I obtained 1,500 pounds of extracted and 223 pounds of comb honey, nearly all of it being basswood honey, and I have 47 frames of sealed honey on hand for spring feeding. I got 4 colonies from a farmer who was going to brimstone them, and now I have in winter quarters 51 good colonies, each having, by actual weight, from 30 to 40 pounds of honey. I am wintering them in 3 different ways: Eight are on the summer stands, 24 in a repository or bee-house, and 19 in a clamp. I put them in on Nov. 23, and all seem to be healthy now.

☞ W. C. Hamilton, Benton City,⊙ Mo., writes:

Last spring my bees went into the road and gathered dust, just as they generally gather pollen, and at the same time I had plenty of meal out which they took at the second time they were gathering dust. One of my queens went into the upper story, where there was nothing but drone-comb, and it filled the drone-comb with worker eggs and reared as fine workers as I ever saw; but by some mismanagement I lost the queen, for which I was very sorry, as I desired to see whether she would have repeated this during the next season. I have 91 colonies of bees, and they need feeding, but I am not able to get out to feed them.

☞ J. H. Brown, Prescott,⊙ Arizona Ter., on Dec. 22, 1884, writes:

My apiary has produced 35 pounds of mixed honey, per colony. I have some hybrid bees from California, and they have more energy than the blacks, but they are harder to manage. We have had some honey-dew here, but I do not know that our honey is any the worse for it. I am satisfied that this is not a good location for bees, but by keeping a few strong colonies, I think that it will pay.

☞ Geo. A. Temple, Lebanon Springs,o~ N. Y., on Dec. 29, 1884, writes:

This has been an exceedingly unprofitable year in this locality, occasioned by the hard frost of May 29, 1884. I have about 30 acres in bearing fruit, but the entire yield, this past year, was about a half-dozen bushels of cider apples and four bushels of pears; so you see my income was seriously curtailed. Of course the bees suffered as well as the fruit, and though they have stores enough to carry them through, I secured not more than 15 pounds of surplus honey from so many colonies.

☞ J. W. Sanders. Le Grand,⊙ Iowa, on Dec. 29, 1884, writes:

I find that getting the volumes of the Bee Journal bound, and thus preserving all the numbers, makes it very useful for reference. The alphabetical indexes are a great help to me when I wish to look up any special subject, as I had occasion to do to-day. The subject was winter feeding of bees, and I found in Volumes XIX and XX that several had reported successful feeding of bees in winter. I noticed that sugar made into candy was the best; and last winter, by laying this kind of food under the quilts of several colonies, it prevented their starving.

☞ Wm. Muth-Rasmussen, Independence, Calif., on Dec. 16, 1884, writes:

Has the full list of Vice-Presidents of the North American Bee-Keepers' Society been made out yet? If so, I should like to see it published in the Bee Journal. Last year I acted as Vice-President without really knowing whether I was entitled to the position; this time California with several other States had no Vice-President appointed at the time of the Convention. I do not "hanker after" the office, but would like to see California have a representative, as well as the other States.

[We think Pres. L. C. Root intends to publish a full list as soon as they are all appointed. We believe the list is not quite full yet.—Ed.]

☞ Fayette Lee (48—80), Cokato,⊙ Minn., on Dec. 29, 1884, writes:

I am going to let comb honey alone and produce only extracted honey. Mr. Dadant is right in regard to extracted honey. I believe that the men who make the most clear cash produce extracted honey. I would like to hear from the largest producers both of extracted and comb honey, as to the actual cost of producing each, including cost of supplies, etc. If we would sell extracted honey for 6 or 8 cents per pound, every family would use it, and then we would have a larger demand for honey; but I believe that each bee-keeper has the right to set any price on his honey that he may desire. My bees are wintering well so far; and there are no dead bees on the cellar bottom. It has been 36 degrees below zero here.

☞ L. D. Ormsby, Pierpont,δ O., on Dec. 16, 1884, writes:

I put 83 colonies into winter quarters in the fall of 1883, and in the spring of 1884, 45 of them were dead, and the balance were very weak. I purchased 2 colonies, thus making me 40 in all, from which, during the past season, I obtained 3,100 pounds of comb honey and 1,100 pounds of extracted, besides increasing them to 81 colonies.

☞ **John Morris, Mauston,⊙ Wis., on Dec. 30, 1884, writes:**

After having the coldest weather known before Christmas and the good New Year, and with the thermometer indicating among the thirties below zero, yet during the last four days the rain has been falling almost continually, and the snow is melting away rapidly.

☞ **C. J. Church, Cedar Rapids,⊸ Iowa, on Dec. 22, 1884, writes:**

I began the spring of 1884 with 58 colonies, and increased them to 123 colonies, mostly by natural swarming. I have 92 colonies in the cellar, each having from 20 to 30 pounds of honey. My crop for the season was, 549 pounds of comb honey, and 3,681 pounds of extracted. I have sold 20 colonies, and my net profits for the season are $592.69.

☞ **T. F. Kinsel, Shiloh,♂ O., on Dec. 26, 1884, writes:**

I have been reasonably successful the past season. I begun in the spring with 20 colonies, increased them to 32, took 1,000 pounds of comb honey in two-pound sections, have sold some bees and all the honey that I could spare, and now have 27 colonies in the cellar. I wholesaled some of my honey to grocers, and obtained 16 cents per pound; and for what I sold at home, I received 18 cents per pound. My bees gathered a great deal of plant-louse honey, and, judging from Prof. Cook's description, some bark-louse honey, too. It was dark, strong, and not good. I am experimenting with a second swarm. In September I fed it the strongest and rankest honey that I had, and it stored it for winter use, and to-day the bees of that colony are as healthy as any I have, at least so far as I am able to judge. If that colony lives and does well, I will not feel badly if my bees do gather such stores; for if it is fit to eat in winter, it will be far better to feed for stimulating purposes in the summer or any time except winter. I have kept bees since 1871, and I have never had any bad honey until this year, so I feel encouraged to think that "bug honey" may be like "angels visits."

☞ **H. H. Hance, Bryan,⊸ O., on Dec. 22, 1884, writes:**

As a general thing, bees in this locality have done very poorly. They have not gathered sufficient honey to winter on, and what they have gathered is of a poor quality, so I fear that the result will be disastrous to a great many bee-keepers. I started with 50 colonies, spring count, increased them to 76, sold one, lost 5 through want of care, and one colony absconded. I took 300 pounds of comb honey in the forepart of the season, but I had to feed back some 500 pounds of granulated sugar. I have them all packed in clover chaff on the summer stands, and all are now in good condition.

☞ **L. Highbarger, Adeline,♂ Ills., on Dec. 22, 1884, writes:**

Bees did fairly well during the past summer. White clover was good, and so my crop was all clover honey. We did not have enough fall honey to keep the bees rearing brood, so as to be strong in bees when put into winter quarters. I apprehend a heavy loss of bees by spring among young colonies, for the want of sufficient stores. The following is the way in which I prepare my bees for winter: In October I put a pair of scales on a small hand-sled, enter the bee-yard, put the first hive on the scales and weigh it; then mark the weight on the hive, and so on with all the hives, when I am ready to equalize their stores. I want each colony to have from 25 to 30 pounds of good honey. My hives, when filled with empty combs, weigh about 30 pounds, and if I find one which weighs 80 pounds, and another 40 pounds, I take 20 pounds of stores from the heavier and give it to the lighter one, so I have each weigh about 60 pounds. I think that this plan is better than guess-work, as I never had one starve. On Dec. 1, or when I think that winter is about set in, I carry them into the cellar, which is so partitioned off as to make it dark. I then cover the floor with air-slacked lime, elevate the hive-bottoms 8 or 10 inches from the ground, and then tier them up 4 and 5 high. I think the lime is a good absorbent, and also purifies the air. I keep all my fruit and vegetables in the cellar, never pay any attention to pollen, and have not lost a colony of bees since adopting the above plan. I give full ventilation below, and raise the honey-board by sticking a shingle nail under each corner of it.

☞ **C. H. Chapman (130—150), Cohoctah,♀ Mich., on December 22, 1884, gives his report as follows:**

Last June I looked for a booster
  In bees, in honey, and cash;
But now I've no room for a rooster,
  My "castle" is broken to smash.

I'd colonies six score and ten,
  June gave me sixty more,
With snow white honey quite a ton—
  Then presto all was o'er.

In July linden froze to death.
  White clover bloom ran farrow;
Chilled by Lapland's icy breath,
  My rooster's scarce a sparrow.

August gave but little bloom;
  No dewy tears were shed:
With bee-hives silent as the tomb,
  My rooster now was dead.

September with her generous flowers,
  With brood filled every cell;
And ere Jack Frost usurped the flowers,
  All, all again seemed well.

Thus hope for brood and bees survive,
  My much lamented bird:
That there is wealth within the hive,
  I don't much doubt the word.

But, should my luckless rooster crow
  Again in "eighty-five,"
I hope to let the readers know
There's wealth within the hive.

☞ **R. Lounsbury, Fort Collins,♂ Colo., on Dec. 22, 1884, writes:**

Last winter I wintered 15 colonies of bees without loss, excepting that two had from a pint to a quart of dead bees in their hives, and one dwindled down in the spring, but the three became full colonies, and are now as good and strong as any I have. My method of preparing them for winter is as follows; I close them up on the summer stands within 4 or 6 inches apart, bank them up with fine straw between boards about 18 inches apart on the west and north sides, and the east and south sides I simply board up, then the whole is covered with boards to keep off the storm. I had only 7 swarms during the past season, and as I had contracted for that number, it left me without any increase. For a short time during the forepart of the season, my bees gathered some honey, and then for a long time, perhaps by the middle of September, I secured probably an average of 12 or 15 pounds per colony besides enough for them to winter on. I sold my comb honey at 25 cents per pound, and the extracted for 18 cents per pound.

☞ **A. Wicherts, Mattison,♂ Ills., on Dec. 26, 1884, writes:**

I begun the spring of 1884 with 80 colonies of bees, one of them being weak in stores, and increased them to 120. I have sold 10 colonies, thus leaving me 110, and 20 of those are nothing more than nuclei colonies. I have them all in a cellar specially made for them last fall. It is 16x24 feet, and is under my house. They were put into the cellar at three different times, and those put in first are all right, while the second lot has many dead bees, and the third have died terribly. I think that cold did it, as the mercury was below zero for three nights. My honey crop is 2,000 pounds of comb honey in one-pound sections, and 1,500 pounds of extracted. I sold all of it, except 500 pounds of comb honey, at an average of 14 cents per pound, in my home market. I could have sold several thousand pounds more of extracted honey at 12 cents per pound if I had had it.

☞ **T. B. Dickinson, Hiawatha,♂ Kans., on Dec. 31, 1884, writes:**

The season of 1884 has been a very poor one. I got a little over 200 pounds of honey from 8 colonies, and I think that all of my surplus honey was gathered from Rocky Mountain bee-plant, cultivated around the edge of my garden, and in an old road-way in lots fenced in. It bloomed from the middle of June until the latter part of August, and my bees worked on it daily from daylight until dark. I got nearly all the surplus honey that was taken about this town.

☞ **F. Schmitt, Yazoo City,⊸ Miss., on Dec. 31, 1884, writes:**

Our honey crop has been very poor this year. I began the season with 50 colonies, increased them to 130, and secured 3,600 pounds of extracted honey.

☞ **L. G. Purvis, Oregon,⊸ Mo., on Dec. 29, 1884, writes:**

In the fall of 1883 I put 33 colonies into winter quarters, and lost one by its being queenless. I commenced the season of 1884 with 32 colonies, 2 of which were queenless, and increased them by natural swarming and dividing to 49 colonies, and then I doubled them back to 47. The past season was the poorest one for honey that I have seen in the twelve years that I have been keeping bees. I obtained only 350 pounds of honey, and then I had to feed $10 worth of sugar syrup in order to get them ready for winter. I have 20 colonies in a cave, and the rest packed in forest leaves on the summer stands.

Convention Notices.

☞ The Northeastern Michigan Bee-Keepers Association will hold its third annual convention on Feb. 4, 1885, at Vassar, Mich. W. Z. Hutchinson, Sec.

☞ The next meeting of the Southern Wisconsin Bee-Keepers' Association will be held at the usual place in Janesville, Wis., on Jan. 6, 1885.

J. T. Pomeroy, Sec.

The Northeastern Ohio and Northwestern Pennsylvania Bee-Keepers' Association will hold its sixth annual convention in the Y. M. C. A. rooms, on the corner of 10th and Peach Streets, Erie, Pa., on Wednesday and Thursday, Jan. 14 and 15, 1885. First-class hotel accommodations may be had at the Wilcox House, for $1.00 per day to those attending the convention. A general invitation is extended.

C. H. Coon, Sec.

☞ The Marshall County, Iowa, Bee-Keepers' Association will meet at the Court House in Marshalltown, Iowa, on Saturday, Jan. 17, at 10:30 a. m. Subjects for discussion: Spring management of an apiary and apiarian supplies. Essays: M. A. Jackson, "Over Production," and F. H. Hunt, "Queen-Rearing and How to Italianize an Apiary." A general invitation is extended to bee-keepers outside of our own county. All who have anything that will be of interest to bee-keepers, will please bring it along.

J. W. Sanders, Sec.

☞ The Cortland Union Bee-Keepers' Association will hold its next meeting at Cortland, N. Y., on Jan. 27, 1885.

M. G. Darby, Sec.

☞ Every subscriber is kindly invited to obtain a *new* subscriber to send with his renewal. Please notice the premiums offered for clubs, on another page.

Special Notices.

The Bee Journal for 1885.

To increase the number of readers of the BEE JOURNAL, we believe, will aid progressive bee-culture and help to elevate the pursuit. We, therefore, offer the following

CASH PREMIUMS FOR CLUBS.

$10.00 for the largest club received at this office before Feb. 1, 1885 (either of the Weekly, Monthly, or both); one Weekly counts same as 4 Monthlies.

$5.00 for the second largest; $4.00 for the third; $3.00 for the fourth; $2.00 for the fifth; and $1.00 for the sixth largest club.

Subscriptions for two or more years for one person, will count the same as each year for a different person.

◆

☞ For two subscribers for the Weekly BEE JOURNAL (or 8 for the Monthly) for one year, we will present a Pocket Dictionary, and send it by mail postpaid.

◆

☞ We will send sample copies free to all who wish them, or desire to get up Clubs. Now is the time to work for the Cash premiums we offer. A large club for the Monthly can be gotten up in almost every locality.

◆

☞ For $2.75 we will supply the Weekly BEE JOURNAL one year, and Dzierzon's Rational Bee-Keeping, in paper covers; or the Monthly BEE JOURNAL and the book for $1.25. Or, bound in cloth, with Weekly, $3.00; with the Monthly, $1.50.

◆

☞ Please notice the change of the club rate for the *Apiculturist*, as noted in our Clubbing List.

◆

Premium for Club of 10 Subscribers.

The book for every farmer is the one entitled "Affleck's Farmer's and Planter's Record and Account Book," in which there is the most systematic, complete and convenient arrangement of headings for every Farm Account and memoranda of all important events which may occur in connection with his business. Every progressive farmer certainly desires to make a success of his occupation, and should adopt every possible means of bringing about that result. He, then, should have a correct knowledge of his entire business, which he can have only by keeping a correct account of every crop produced on his farm, the cost of production of all his live stock and an itemized account of all his expenses. Then at the close of the year, when he takes off his balance sheet, which is admirably arranged in the book above referred to, he will be able to see at a glance whether his farm does or does not pay.

This valuable book contains 166 pages, is nicely printed on writing paper, ruled and bound, and the price is $3.00. It can be sent by mail for 24 cents extra.

We can supply these books at the publisher's price, or will make a **present** of one copy for every club of TEN subscribers to the Weekly BEE JOURNAL for one year, with $20. Four subscribers to the Monthly will count the same as one for the Weekly.

Now is the time to get up Clubs. Who will work for a copy of this valuable book.

CLUBBING LIST.

We will supply the **American Bee Journal** one year, and any of the following Books, at the prices quoted in the last column of figures. The first column gives the regular price of both. All postage prepaid.

	Price of both.	*Club*
The Weekly Bee Journal,	$2 00..	
and Cook's Manual, latest edition	3 25..	3 00
Bees and Honey (T.G.Newman) cloth	3 00..	2 75
Bees and Honey (paper covers)	2 75..	2 50
Binder for Weekly Bee Journal	2 75..	2 50
Apiary Register for 100 colonies	3 25..	3 00
Dzierzon's New Bee Book (cloth)	4 00..	3 00
Dzierzon's New Book (paper covers)	3 50..	2 75
Quinby's New Bee-Keeping.	3 50..	3 25
Langstroth's Standard Work	4 00 .	3 75
Root's A B C of Bee Culture (cloth)	3 25..	3 10
Alley's Queen Rearing	3 00..	2 75
The Weekly Bee Journal one year		
and Gleanings in Bee-Culture (A.I.Root)	3 00..	2 75
Bee-Keepers' Magazine (A.J.King).	3 00..	2 75
Bee-Keepers' Guide (A.G.Hill)	2 50..	2 35
Kansas Bee-Keeper	3 00..	2 75
The Apiculturist, (Silas M. Locke) ..	3 00..	2 90
The 6 above-named papers	6 50..	6 00

THOMAS G. NEWMAN,
925 West Madison Street., **Chicago, Ill.**

◆

☞ At the World's Exposition, let it be understood, says Dr. Brown, that "all exhibits of colonies of bees and bee manipulations will *only be during the week of the Convention.* Supplies can be exhibited any time during the Exposition."

◆

☞ Vick's new Catalogue for this year is very attractive. It describes every variety of plant and flower one would wish to cultivate in garden or house. The prices are reasonable. The price of the *Floral Guide* is 10 cents, which will be remitted to those who give an order for seeds or plants. Address James Vick, Rochester, N.Y.

◆

☞ We respectfully call attention to the seed advertisement of James J. H. Gregory, Marblehead, Mass. His large and complete Catalogue is sent free.—*adv.*

◆

Young Men!—Read This.

THE VOLTAIC BELT CO., of Marshall, Mich., offer to send their celebrated ELECTRO-VOLTAIC BELT and other ELECTRIC APPLIANCES on trial for thirty days, to men (young or old) afflicted with nervous debility, loss of vitality and manhood, and all kindred troubles. Also for rheumatism, neuralgia, paralysis, and many other diseases. Complete restoration to health, vigor and manhood guaranteed. No risk is incurred, as thirty days trial is allowed. Write them at once for illustrated pamphlet free. 6D1y

$200,000 *in presents given away.* Send us 5 cents postage, and by mail you will get *free* a package of goods of large value, that will start you in work that will at once bring you in money faster than anything else in America. All about the $200,000 in presents with each box. Agents wanted everywhere, of either sex, of all ages, for all the time, or spare time only, to work for us at their own homes. Fortunes for all workers absolutely assured. Don't delay. H. HALLETT & Co.
51A1y Portland, Maine.

Bee Hives, Sections, &c.

Our New Shop Completed, and our New Machinery at Work.

WE now claim the best facilities for furnishing Supplies in the Southeast. Our Factory will be equipped with the latest improved machinery, which will enable us to manufacture Goods "up to the times," and will furnish all kinds at very reasonable prices. Parties needing Supplies would do well to see our prices before buying.

QUEENS and BEES for 1885.

THE ALBINOS AHEAD, and we make a specialty of them. Those who wish for **EARLY QUEENS** should order them soon, as orders will be filled in rotation. For Prices, address

S. VALENTINE & SON,
1C2t HAGERSTOWN, MARYLAND.

Bee-Keepers' Supplies.

WE have added to our LARGE FACTORY a **SPECIAL DEPARTMENT** for the

Manufacturing of Bee-Hives,

AND

White Poplar Dovetailed Also, One and Two-piece SECTIONS.

☞ All Orders will be filled promptly at the **LOWEST FIGURES,**

Send Stamp for Catalogue and Samples.

The H. F. MOELLER M'f'g Co.
1A26t DAVENPORT, IOWA.

Bailey's Swarm-Catcher.

How strange it is that men's eyes upon the same subject to all intents and purposes will focus so differently, as was in the two cases of which I will mention, viz: 1. An individual living not many miles from here, and who had seen an illustration of the Bailey Swarm-Catcher in the BEE JOURNAL and also in A. H. Newman's Catalogue, allowed one to be made and used in his apiary and then claimed that he had a right to make and use any patented article for his own individual use, and that he had good authority for the same, which was published last winter in the *Inter-Ocean*. A second individual takes a different view of the subject and writes me thus:

Pickett's, Wis., July 13, 1884.—"I have got into trouble with the bees as you said I would, and saw the need of one of your Swarm Catchers; but then I thought perhaps you were short, as your stock was low when I was at your place. I wanted to be at home when my bees were swarming, so I took the liberty to make one, and now inform you of the same and will pay you at the first opportunity. I have no desire to infringe on any one's right, and will not do so. If I keep bees I will want more of them next season. For this liberty, I hope you will excuse."

Now let facts be as they may, is it consistent with good reasoning that our Government will foster in its midst a Patent Office which has accumulated wealth above the expense of running the business and still continues to receive money from the inventor's hand, who may labor and experiment for weeks, months and years, only to learn that the strong arm of protection of the Patent Office, with the United States' seal upon its document, is nothing but a farce? Hear what a reliable man of Texas says:

"I have tried the Bailey Swarm-Catcher this year, and it has given general satisfaction to me. I could not manage bees without it. It fills the bill and will do all that it is recommended to do. J. T. Lindley, Ingram, Kerr Co., Texas."

"I think the Bailey Swarm Catcher a very good thing, and will do all that is claimed for it. L. M. Lacy, Locke Hill, Texas, Oct. 6, 1884."

For rights address **J. W. BAILEY,**
RIPON, WIS.

Vandervort Foundation Mill.

6 Inch, Price, $25.00.

It makes the finest extra thin Foundation for comb honey. For Sale by

ALFRED H. NEWMAN.
923 West Madison Street. CHICAGO, ILL.

Bee-Hives and Supplies.

WE HAVE remodeled our machinery and can fill orders on short notice. If wanted, **Odd Sizes** made; send order now, before the rush comes. We have a large stock on hands. We give 4 per cent. discount till Jan. 15, and 3 per cent. discount till Feb. 1. Price List free.

B. J. MILLER & CO.
1D6t NAPPANEE, Elkhart Co., Ind.

DADANT'S FOUNDATION

is attested by hundreds of the most practical and disinterested bee-keepers to be the cleanest, brightest, quickest accepted by bees, least apt to sag, most regular in color, evenness and neatness of any that is made. It is kept for sale by Messrs.

A. H. NEWMAN, Chicago, Ill.,
C. F. MUTH, Cincinnati, O.,
JAMES HEDDON, Dowagiac, Mich.,
DOUGHERTY & McKEE, Indianapolis, Ind.,
CHAS. H. GREEN, Berlin, Wis.,
CHAS. HERTEL, Jr., Freeburg, Ill.,
E. L. ARMSTRONG, Jerseyville, Ill.
ARTHUR TODD, Germantown, Philadelphia, Pa.
E. KRETCHMER, Coburg, Iowa.
E. F. SMITH, Smyrna, N. Y.
C. F. DALE, Mortonsville, Ky.
EZRA BAER, Dixon, Lee Co., Ill.

and numbers of other dealers.

Write for SAMPLES FREE and price list of supplies, accompanied with

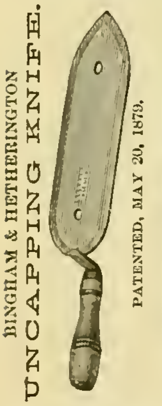
150 COMPLIMENTARY.

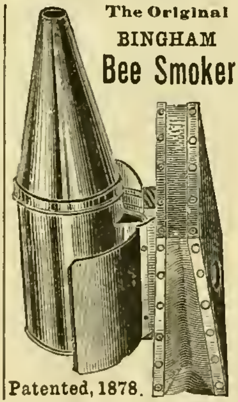
and UNSOLICITED TESTIMONIALS from as many bee-keepers in 1883.

We guarantee every inch of our Foundation equal to sample in every respect.

CHAS. DADANT & SON,
5AB1y HAMILTON, Hancock Co., ILL.

VALUABLE ORIGINAL PATENTS.


BINGHAM & HETHERINGTON
UNCAPPING KNIFE.
PATENTED, MAY 20, 1879.



Prof. Cook, in his valuable Manual of the Apiary, states that "Mr. Bingham was the first to improve the old Quinby smoker by establishing a direct draft." Five years of persistent effort has demonstrated that no one but Bingham has been able to improve a Bingham smoker. Hundreds of Bingham smokers have been in use five years, and are yet in working order. They burn lots of blocks and chips and stuff, and make lots of smoke and comfort, and have no dampers or match-box attachments, as they never go out or fail to blow smoke up or down or sideways, much or little, swift or slow, just as you please, any or all the time; top up or down, they always go!

Bee-keepers will save money and vexation by buying genuine Bingham smokers and Bingham & Hetherington Uncapping-Knives first. We neither make nor handle any other supplies; but of these we are the original inventors, and only legal makers, and have had over 45,000 in use from one to five years, and receiving but one letter of complaint.

With European and American orders already received for over 3,000, there is evidence that 1884 with us is not likely to be an idle one. Also that such goods as we make have met the advanced wants of the most advanced bee-keepers in Europe and America.

Prices, by mail, post-paid.

Doctor smoker (wide shield)	3½	inch	$2 00
Conqueror smoker (wide shield)	3	"	1 75
Large smoker (wide shield)	2½	"	1 50
Extra smoker (wide shield)	2	"	1 25
Plain smoker	2	"	1 00
Little Wonder smoker	1¾	"	65
Bingham & Hetherington Honey Knife,	2	inch	1 15

TO SELL AGAIN, apply for dozen or half-dozen rates. Address,

BINGHAM & HETHERINGTON,
8A2Btf **ABRONIA, MICH.**

Sixth Thousand Just Published!

New and Enlarged Edition

OF

BEES and HONEY,

OR THE

Management of an Apiary for Pleasure and Profit; by

THOMAS G. NEWMAN.

Editor of the Weekly Bee Journal.

925 West Madison Street, Chicago, Ill.

It contains 220 profusely illustrated pages, is "fully up with the times" in all the improvements and inventions in this rapidly developing pursuit, and presents the apiarist with everything that can aid in the successful management of the Honey-Bee, and at the same time produce the most honey in its best and most attractive condition.

PRICE—Bound in cloth, $1.00; in paper covers, 75 cents, postpaid.

☞ **A Liberal Discount to Dealers, by the Dozen or Hundred.**

☞ The Monthly BEE JOURNAL for a year and the pamphlet "Bees and Honey," will both be sent for $1.

THE VICTOR HIVE

is operated upon a new principle by which the sections are placed in vertical lines with the brood frames; continuous passages being effected in a

Practical Manner!

It may be arranged for any form of the Langstroth Frame; has been fairly tested, and is the **Best Hive** made for Comb Honey. May be used for Extracting. Send for my 24-page Catalogue and Price List. Address

DR. G. L. TINKER,
1Atf NEW PHILADELPHIA, O.

BE SURE

To send a Postal Card for our Illustrated Catalogue of APIARIAN SUPPLIES before purchasing elsewhere. It contains Illustrations and descriptions of everything new and valuable needed in an apiary, at the lowest prices. Italian Queens and Bees. Parties intending to purchase Bees in lots of 10 colonies or more, are invited to correspond.

J. C. SAYLES,
1D15t 2B5t HARTFORD, WIS.

Six Apiaries. All interested in **Bees** or **Honey** should send for our **1000** **colonies of Bees for sale.** **Price List** and **Catalogue of Bees, Queens,** and **Apiarian Implements.** *Safe Delivery guaranteed.* **FLANAGAN & ILLINSKI,**
Lock Box 995, **Belleville,** *St.Clair Co.,* **Ills.**
1AB1y

REVERSIBLE FRAMES.

SEND 15c. (in one or two-cent stamps) and get by return mail the neatest, cheapest and most practical arrangement extant for reversible frames. They are adapted to any frame or hive.

HENRY ALLEY,
1Atf WENHAM, MASS.

I pay **25c.** per pound delivered here, for yellow Beeswax. To avoid mistakes, the shipper's name should always be on each package.

ALFRED H. NEWMAN,
923 West Madison St., CHICAGO, ILL.

Bee Hives

AND

SECTIONS.

NEW SHOP AND NEW MACHINERY !!

The Largest Manufacturer of Bee Hives Sections, etc., in the World!

Our capacity now is a **CAR-LOAD OF GOODS DAILY.**

DECIDED.—The Courts have decided the Patent on the One-Piece Section to be *null* and *void* for want of novelty. We are now manufacturing them again as first placed on the market by Lewis & Parks.

Write for my new Price-List for 1885.

G. B. LEWIS,
49Ctf WATERTOWN, WIS.

Friends, if you are in any way interested in

BEES OR HONEY

We will with pleasure send a sample copy of the **Semi-Monthly Gleanings in Bee-Culture,** with a descriptive price-list of the latest improvements in **Hives, Honey Extractors, Comb Foundation, Section Honey Boxes,** all books and journals, and everything pertaining to Bee Culture. *Nothing Patented.* Simply send your address *written plainly,* to

Ctf A. I. ROOT, Medina, O.

YOU NEED the **National Real Estate Index.** Full of TRADES, Bargains and Real Estate news. 50 cts. a year. Sample copy free. Address,
27C6t **W. L. GRIGGS,** Kirksville, Mo.

BEE-KEEPERS' SUPPLIES.

MANUFACTURERS OF

BEE-HIVES

AND

One-Piece Sections, Foundation, Smokers, &c

Send for Circular. **Smith & Goodell.**
49Ctf ROCK FALLS, ILL.

BEE-KEEPERS' GUIDE;

Or, MANUAL OF THE APIARY.

11,000 SOLD SINCE 1876.

12th Thousand Just Out!

11th Thousand Sold in Just Four Months!

2,000 Sold the past Year.

More than 50 pages, and more than 50 fine illustrations were added in the 8th edition. The whole work has been thoroughly revised, and contains the very latest in respect to bee-keeping. It is certainly the fullest and most scientific work treating of bees in the World. Price, by mail, **$1.25.** Liberal discount to dealers and to clubs.

A. J. COOK, Author and Publisher,
State Agricultural College, LANSING, MICH.
18C7t 20D12t

The Oldest and Largest establishment in the United States making a Specialty of Mail Orders.

JOB PRINTING, POST-PAID BY MAIL.

Letter Heads, Bill Heads, Envelopes and Business Cards, **35** cents per **100,** 500 for $1.50. All kinds of Job Printing neatly executed. Send stamp for samples. Our paper, **Boys and Girls,** 25c. a year. Send for Sample Copy. **R. M. BULISON,**
2C3t FLUSHING, MICH.

BEES **For Pleasure and Profit.** A New Book of 172 pages, profusely illustrated, by Rev. Wm. Ballantine. Prices, 50 and 75 cents. Address the author at
1A5t New Concord, Muskingum Co., Ohio.

1885 ITALIAN QUEENS 1885

6 WARRANTED QUEENS FOR $5. Write for Circular. **J. T. WILSON,**
1BC4t,ea NICHOLASVILLE, KY.

DUNHAM COMB FOUNDATION MACHINE.

TESTIMONIALS.

Hamilton, Ill., Dec. 10, 1883.

MRS. FRANCES DUNHAM, De Pere, Wis.

Dear Madam:—We have made about 38,000 lbs. of foundation on your mills this year, and the foundation has given universal satisfaction; so much so, that several manufacturers have stopped manufacturing to supply their customers with our foundation. We have also manufactured about 10,000 lbs. of thin foundation on the Vandervort machine for surplus boxes, and it has been equally a success, but for brood chamber foundation, yours is still unexcelled.

Yours, CHAS. DADANT & SON.

MRS. FRANCES DUNHAM, De Pere, Wis. Beeton, Ont., Dec. 10, 1883.

Dear Madam:—I have made over 100,000 lbs. of foundation on one of your machines, and would not now take double the price I paid for it. Yours very truly, D. A. JONES.

MRS. FRANCES DUNHAM: Genoa, Cayuga Co., N. Y., Dec. 12, 1883.

All prefer the foundation I manufacture on one of your mills, to that made on any other machine. I have no difficulty in rolling it from 10 to 12 feet to the pound for sections.

Yours respectfully, J. G. WHITTEN.

MRS. FRANCES DUNHAM: Kenton, Ohio, Dec. 29, 1883.

After using one of your foundation mills for the past 3 years, we can't say too much in its favor And for brood foundation, it stands head and shoulders above all. Yours, SMITH & SMITH.

MRS. FRANCES DUNHAM: Omaha, Neb., Jan. 18, 1884.

I made all brood on Dunham mill, and that I believed it by far the best for that purpose, and as further proof, instance the testimony of E. Kretchmer, of Coburg, Iowa, and L. C. Root & Bro., of Mohawk, N. Y. Messrs. Root & Bro. have only used brood foundation of me, and in a later communication say: "It (our foundation) gave the best results of any tried." I write this that you may have fair play, which is to me always a jewel. You are at liberty to publish this. Yours truly, T. L. VON DORN.

Send for description and Price List to

FRANCES DUNHAM, De Pere, Wis.

2BCtf

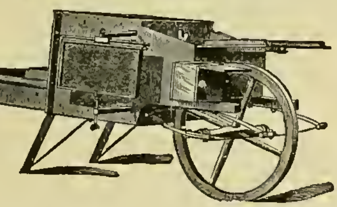
1885
GREGORY'S
SEED
CATALOGUE.
FREE

SEED Warranted to Grow.

or order refilled gratis. I have sold vegetable and flower seed to over a **million farmers and gardeners** in the United States, perhaps some are your neighbors, if so ask them whether they are reliable. Mr. Thomas Henshall of Troy, Kansas, writes me: "For **26 years** I have dealt with you. I have lived in Iowa, Missouri, Colorado, and Kansas, and no matter what the soil or climate, the result was always the same, to wit:—**religiously honest and good.**" This is the kind of seed I raise and sell. The **Hubbard** and **Marblehead Squash, Marblehead Corn, Marblehead Cabbages, Ohio Potato, Eclipse Beet,** are some of the vegetables of which I was the original introducer. A Fair with $500 in premiums. See my catalogue, free to all

JAMES J. H. GREGORY, (Seed Grower), Marblehead. Mass

SYSTEMATIC AND CONVENIENT.



DAVIS' PATENT HONEY CARRIAGE,

REVOLVING COMB-HANGER,

Tool Box and Recording Desk Combined.

Price, complete, only............$18.00.

For sale by **ALFRED H. NEWMAN,**

923 West Madison Street, CHICAGO, ILL.

HELP for working people. Send 10 cents postage, and we will mail you *free*, a royal, valuable sample box of goods that will put you in the way of making more money in a few days than you ever thought possible at any business. Capital not required. You can live at home and work in spare time only, or all the time. All of both sexes, of all ages, grandly successful. 50 cents to $5 easily earned every evening. That all who want work may test the business, we make this unparalleled offer: To all who are not well satisfied we will send $1 to pay for the trouble of writing us. Full particulars, directions, etc., sent free. Immense pay absolutely sure for all who start at once. Don't delay. Address STINSON & CO.

51A1y Portland, Maine.

YES, WHY NOT?

SEND me your address on a postal and receive a description of **My Improved Hook** for bottom-boards of bee-hives.

CHEAP! SIMPLE! EFFECTIVE!

Pronounced the "**best thing out.**" Sample hook for a two-cent stamp. No room to say more. Write to

HOWARD U. ACKERMAN.

1ABtf NORTH INDIANAPOLIS, IND.

Dadant's Foundation Factory, wholesale and retail. See Advertisement in another column.

The WORLD'S EXPOSITION

NEW ORLEANS

Opens Tuesday, December 16, 1884.

In the presence of the Presidents of the American Republics, viz: Arthur, of the United States; Diaz of Mexico; Barrios, of Guatemala; Bogran, of Honduras.

The Colossal Exhibit of all Time!

Sixteen (16) Immense Exhibition Buildings:

One—the largest building ever erected, another—the largest Conservatory in the World.

90 Acres of Space Under Cover!

Low Transportation Rates from all Points. Ample Accommodations at Reasonable Rates for all Visitors.

During the period of the Exposition, from December 16, 1884, to June 1, 1885 the temperature at New Orleans averages 65 Fahr. The lawn and shrubbery remain green, flowers bloom, fruits ripen, and all kinds of vegetables grow and mature.

Full information promptly furnished. Address,

E. A. BURKE, Director General,
New Orleans, La.

FOR BEE-HIVES

And a general assortment of **Bee-Keepers' Supplies** send for circular to

51Dtf J. E. PRYOR, Dexter, Iowa.

1868. 1884.

HEDDON'S

COLUMN.

WAX ON SHARES,

For Comb Foundation for 1885.

Why not send me your Wax

NOW

to be made into the best Given Foundation on shares, or at a low cash price per pound for making, during the less-hurried winter months.

If you have no wax, perhaps your store-keepers have, and it will pay you to buy and ship to me.

Write and get my present low terms. I pay highest market price in

CASH FOR WAX.

Apiary for Sale.

I offer for sale one of the best apiaries and very choicest location in Southern Michigan.

No other bees kept in the field. House, barn and honey-house, good cellar, cistern, and two wells; high-board fence all on ½ acre of ground in a small village, 6 miles from here, on this M. C. R. R. Depot, freight, express and telegraph offices, saw-mill, store and blacksmith shop only 25 rods distant.

Here we have three surplus honey crops: First, from white clover; second, from basswood; third, from myriads of fall flowers.

I will give my purchaser a splendid opportunity to gain a good home, and choice honey location. I will sell with it any number of colonies of bees and apiarian fixtures wanted, the outfit being either for comb or extracted honey as desired; or I will sell only the home and permanent fixtures, and furnish a large number of colonies on shares till the purchaser thus gains stock of his own. Hives and fixtures of my latest improved patterns. Write me for prices, terms, etc.

HIVES IN THE FLAT,

OR MADE UP COMPLETE,

Either for Comb or Extracted Honey, cheaper than many can procure material at home. Write for special prices in quantity, and state the number wanted.

Address,

JAMES HEDDON,
DOWAGIAC, Cass County MICH.

"BOSS" ONE-PIECE SECTIONS.

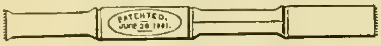
READ THIS.

A word of explanation in regard to the infringement suit on the One-Piece Section, we deem necessary at this time.

I commenced suit against A. I. Root, in the United States Circuit Court, for the Northern district of Ohio; Stanley Matthews presiding. He decided that the patent was void for want of novelty. I have taken an appeal to the United States Supreme Court at Washington, which will decide the case, and its decision will be final. If it goes against me I will submit, but if decided in my favor, I shall expect all who have infringed will pay me damages from date of the patent.

Some unprincipled parties are advertising that the Courts have decided that the patent is void. This is not the case, as it is before the United States Supreme Court at Washington, at the present time. When that Court gives its opinion it will be final, and until it does, any one infringing will be liable for damages, if the United States Supreme Court sustains the patent.

PRICES OF SECTIONS.



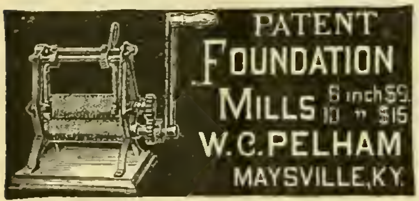
One-lb. Sections in lots of		500 to 4,000	$5.00
Ditto	Ditto	5,000 to 10,000	4.75
Ditto	Ditto	10,000 to 25,000	4.50
Ditto	Ditto	25,000 to 50,000	4.25
Ditto	Ditto	100,000 or more	4.00

The one-lb. Section is 17 inches long. For any sizes between 17 and 20 inches in length, add 5 per cent. For any sizes between 20 and 24 inches, add 10 per cent. Add the above per centage to the price of one-lb. Sections in the same quantity.

J. FORNCROOK & CO.,

50A8tBCtf Watertown, Wis., Dec. 1, 1884.

Dadant's Foundation Factory, wholesale and retail. See Advertisement in another column.



PATENT FOUNDATION MILLS 8 inch $9, 10 " $15

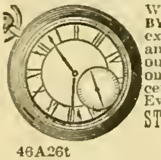
W. C. PELHAM
MAYSVILLE, KY.

37AB1y

Vandervort Comb Fdn. Mills,

Send for Samples & Reduced Price-List.

ABtf **J. VANDERVORT, Laceyville, Pa.**



We will send you a watch or a chain BY MAIL OR EXPRESS, C. O. D., to be examined before paying any money and if not satisfactory, returned at our expense. We manufacture all our watches and save you 30 per cent. Catalogue of 250 styles free. Every Watch Warranted. Address

STANDARD AMERICAN WATCH CO.,
PITTSBURGH, PA.

46A26t

Muth's Honey Extractor,

Square Glass Honey Jars, Tin Buckets,
Langstroth Bee-Hives, Honey-Sections, etc.

Apply to **C. F. MUTH,**
976 and 978 Central Ave., **CINCINNATI, O.**

☞ Send 10c. for Practical Hints to Bee-Keepers.

FLAT-BOTTOM COMB FOUNDATION,

high side-walls, 4 to 16 square feet to the pound. Circular and samples free.

J. VAN DEUSEN & SONS,
Sole Manufacturers,
Sprout Brook, Mont. Co., N. Y.

ALFRED H. NEWMAN,

Dealer in all kinds of

APIARIAN SUPPLIES,

AND

HONEY AND BEESWAX,

923 West Madison Street,
CHICAGO, ILL.

MY ILLUSTRATED CATALOGUE sent FREE upon application.

Dadant's Foundation Factory, wholesale and retail. See Advertisement in another column.

SEND FOR IT.

We have just issued a new four-page circular that will interest any bee-keeper. Send your name on a postal card for it.

44Atf HENRY ALLEY, Wenham, Mass.

FOR SALE.—A one-and-a-half horse-power, wrought-iron, tubular **BOILER AND ENGINE**, in working order. Delivered on cars here for $115.00. Address

52A4t **J. D. ENAS, Napa, California.**

Given's Foundation Press.

PUBLIC SENTIMENT affirms that the PRESS is SUPERIOR for making Comb Foundation either in Wired Frames or for SECTIONS, and insures straight and perfect combs, when drawn out by the bees. Send for Circular and samples.

D. S. GIVEN & CO.,

1ABtf HOOPESTON, ILL.

FLORAL INSTRUCTOR

AINSWORTH, IOWA.

A Monthly Fruit, Flower & Garden Journal, on trial, 4 months, 10 cents. Address as above.

52A3t

WIN more money than at anything else by taking an agency for the best selling book out. Beginners succeed grandly. None fail. Terms free. HALLETT BOOK CO.

51A1y Portland, Maine.

Dadant's Foundation Factory, wholesale and retail. See Advertisement in another column.

J. W. ECKMAN,

DEALER IN

Pure Italian Bees and Queens

For further information, send for Circular.

7A1y RICHMOND, Fort Bend Co. TEXAS.

A PRIZE. Send six cents for postage, and receive free, a costly box of goods which will help you to more money right away than anything else in this world. All, of either sex, succeed from first hour. The broad road to fortune opens before the workers, absolutely sure. At once address TRUE & CO., Augusta, Maine.

51A1y

DRAKE & SMITH,

Successors to A. E. Manum, Bristol, Vermont,

MANUFACTURERS OF

BEE-KEEPERS' SUPPLIES.

Hives, Sections, Shipping Crates, &c.

White Poplar Sections a specialty in quality and accuracy. Send for Illustrated Catalogue and Price List.

50A12t

Dadant's Foundation Factory, wholesale and retail. See Advertisement in another column.

HEADQUARTERS IN THE SOUTH

For the manufacture of

BEE-KEEPERS' SUPPLIES.

Dunham and Root Foundation a specialty. Italian Queens and Bees from March to November.

☞ Send for my Illustrated Catalogue.

5Ctf **PAUL L. VIALLON,** Bayou Goula, La.

F. A. & H. O. SALISBURY'S

Condensed PRICE-LIST.

Send 2-cent Stamp for our Catalogue.

CHAFF HIVES.

We are prepared to make any style of hive any one may need, but advise all to have those adapted to the Langstroth frame, as that is the standard.

3 in the flat,	$5.10	each $1.70
10 in the flat,	16.00	each 1.60

SIMPLICITIES.

3 Van Deusen-Nellis, in flat,	$1.50,	ea. .50
10 Van Deusen-Nellis, do.	4.50,	ea. .45
3 Salisbury's in the flat,	$2.10	ea. .70
10 Salisbury's in the flat,	6.40	ea. .64

SURPLUS BODIES

For Simplicity and Langstroth Hives.

Exactly like the body of Simplicity, but only half as high.

1 Body,	$ .20	each, 20c.
10 Bodies,	1.80	each, 18c.

FRAMES.

The Hoffman-Langstroth frames are the ones we are adopting in our apiaries of 230 colonies. They have many advantages not possessed by the common frame.

Hoffman-Langstroth,	per 100, $2.00
Dovetailed do.	per 100, $1.75
Plain do.	per 100, $1.50
Wide for 8 1-lb. Sec.,	per 100, $3.00
Wide for 4 1-lb. Sec.,	per 100, $2.50

SECTION BOXES.

Use a nailed box and have a decent one. No boxes can look as nice as they. We make them from white basswood, planed on edges and one side.

4¼x4¼, per 1000	$4.75
5¼x5¼, per 1000	$6.00

EXTRACTORS.

The best Extractor is the Automatic, which we handle exclusively. If you get one and use it one season, you will not sell it for twice its cost if you could not get another.

2-frame Machine (L size)	$12.00
4-frame Machine (L size)	$21.00

Can furnish them up to 10 frames. See catalogue for prices.

COMB FOUNDATION.

Do not believe any when they say they make the the best. We challenge any one to make **better** foundation than we do. Prices and particulars given in catalogue.

ENGINES.

An engine for bee-keepers and others. No engineer required. Can be started by a match and then takes care of itself. If the engine is stopped the fire goes out. If started, it is lighted. Burns kerosene. Costs 12 cents to run a one-horse-power 10 hours.

We wish to say to all who have not yet placed their orders, to send a 2-cent stamp for our circular. Get our prices and then try us. We **can** please and **will**. Address

F. A. & H. O. SALISBURY.

1BC1y GEDDES, Onondaga Co., N. Y.

WEEKLY EDITION
OF THE
AMERICAN
ESTABLISHED IN 1861
OLDEST BEE PAPER IN AMERICA
BEE JOURNAL
PUBLISHED AT
925 WEST MADISON-STREET, CHICAGO, ILL.
Weekly, $2 a year; Monthly, 50 cents.

THOMAS G. NEWMAN,
EDITOR AND PROPRIETOR.

Vol. XXI. Chicago, Jan. 14, 1885. No. 2.

☞ The fare to the World's Exposition at New Orleans from Chicago and return (good for 15 days) is now only $20. This will be an extra inducement to those who intend to go to the "Bee-Keepers' International Congress," to be held there on Feb. 24, 25 and 26. In response to many inquiries, we will now say that it is our intention to be present and take part in the deliberations. We hope there will be a large representation from the North.

◆

☞ The Rev. Wm. Ballantine, of Sago, O., has just published a new work entitled "A Practical Treatise on Bee-Culture." It is sold at 50 cents, in paper covers, and 75 cents bound in cloth. The author has done his part well, but the printer has made a botch of it.

◆

☞ We have had a "shower" of Postal Cards saying that the BEE JOURNAL of Dec. 31 was not received. By referring to the first page of the BEE JOURNAL for Dec. 24, it will be seen that it contained the index and closed the volume for 1884, being the fifty-second number for that year. As there were fifty-three Wednesdays (our day of publication) in last year, we published none for Dec. 31, and the first number for this year is dated Wednesday, Jan. 7, 1885.

◆

Catalogues for 1885.—We have received the following:

James Heddon, Dowagiac, Mich.
F. A. & H. O. Salisbury, Geddes, N. Y.
B. J. Miller & Co., Nappanee, Ind.
J. S. Tadlock, Luling, Texas.
J. J. Hurlbert, Lyndon, Ills.
Illustrated Catalogue of the Plant Seed Co. of St. Louis, Mo., in English and German.

Absolute Phenol.

Many correspondents are enquiring what Mr. Frank Cheshire means by "Absolute Phenol" in his article on *Bacillus alvei*, or what is generally called "foul brood." We have responded twice to this inquiry that it is simply pure carbolic acid. Dr. James Dalziel writes the following on the point to the *New Zealand Bee Journal*, which we think will be interesting to our readers:

> I need scarcely say that when I received the November number of the *Bee Journal* I at once read Mr. Cheshire's paper with very great interest, but when I reached the following sentences:—"Here a caution is needful. Carbolic acid is an impure phenol, and is useless. It contains creosote and creosols, and bees abhor it. Absolute phenol must be used. It is difficult rather to obtain," etc., I was considerably amused, and reminded of the following story:—An Englishman and a Scotchman, on a tour through Ireland, were conversing on vegetarianism; they were loud in their praises of potatoes as an article of daily diet (the Scotchman called them "taties," pronounced "taaties") and asked the Irishman for his opinion of them as vegetables. He replied that he could not altogether agree with them; potatoes and taties might do very well with English and Scotch stomachs, but he had once tried some potatoes and they agreed with his stomach so badly that he had to send for the doctor, and was very bad indeed for several hours; but there was a vegetable which he had eaten at every meal for years, and it had never disagreed with him yet, and that was —"spuds."
>
> The difference between "phenol" and "carbolic acid" is the same as between "potatoes" and "spuds." "Phenol" is the French name, "carbolic acid" the English name for the same article, and "impure phenol" is "impure carbolic acid;" "pure carbolic acid" is "pure phenol." On this point the British Pharmacopœia is, I think, sufficently good authority, it says: "Acidus carbolicus. Synonyma, phenic acid; phenol; hydrate of phenyl; . . . ." Any good dictionary will inform your readers that "synonym" is "another term signifying the same." As to the difficulty in obtaining, I think it can easily be gotten from any good chemist or druggist.

◆

☞ A little boy discovered a bee crawling about on his hand. Finally, the bee stopped for a moment, and, after remaining stationary for an instant, stung the little fellow. When the cry of pain was over, the little child said to his mamma that he did not care for the bee's walking about on him, but he did not like his sitting down on him.

Queries & Replies.

An Enthusiastic Welcome.

As we had every reason to expect, the initiatory number containing this new Department was received with the most enthusiastic endorsement. The opinions of the many practical honey-producers are worth much more than the opinion of any one person, no matter how much he knows or how successful he may be.

Again, much more care will be bestowed upon the questions, and more thought before answering, because every one knows there are others who are answering precisely the same question, and the answer records his judgment by the side of his cotemporaries, to stand until the undeveloped and undefined future shall make all things clear, and decide who was right and who wrong.

As we have three belated replies of Query, No. 2, we will reprint that Query and give those first.

◆

Bees Uneasy and Roaring.

Query, No. 2.—Dec. 16 was cold and windy, with the thermometer at zero; next morning it stood at 20 degrees above, the wind has ceased, and the bees were roaring as if it was in June. What caused the uneasiness? Is it a sign of diarrhea?

DR. C. C. MILLER suggests the following: "Was it not the bees stirring up to get fresh feed? I think that bees do this habitually, by spells, and the rise of temperature would induce all to partake at the same time."

H. R. BOARDMAN remarks thus: "The change in temperature was a sufficient explanation of the disturbance described—being neither the heat nor the cold, but the sudden change of temperature which invariably produces such disturbance, and in proportion to the violence of such change, whether rising or falling temperature."

J. E. POND, JR., replies as follows: "I do not think that the explanation given could be diagnosed as bee-diarrhea. It is true that bee-diarrhea is accompanied by such a roaring as is described, but there are other causes that might produce the same. My opinion is that the bees were hibernating during the severe cold weather, and the sudden change of 20° in warmth, awakened them, and the roaring was caused by those efforts which they always make at such times, to restore the equilibrium of heat within the hive; another reason for so thinking is, that if affected with bee-diarrhea, they would have given further manifestations of being so troubled."

Bee-Houses and Cellars.

Query, No. 3.—How should they be built? How ventilated? What is the right temperature? When should the bees be taken out?

James Heddon says: "Observation and experiment have forced me to believe that no kind of a cellar with any sort of ventilation, quantity of food, or degree of temperature can be depended upon to prevent bee-diarrhea where its primary cause is present. Just how special repositories should be built and operated, cannot well be learned until we first know the cause and prevention of the disease which is at the bottom of all our winter losses. I think that the future will prove that such ventilation, temperature and humidity as that in which the bees remain the most quiet, is the best; and that will vary a little in different localities and seasons. Bees should be removed from cellars or bee-houses after all danger of any long confinement is past, or when the first new pollen appears."

Dr. C. C. Miller responds as follows: "I use the cellar under my house, and I also built a bee-cellar about a year ago, making it the same as an ordinary cellar. Bee-houses or bee-cellars should be ventilated by a sub-earth ventilation pipe for ingress of air, and a chimney or pipe at the top for an exit for the air. A stove containing a slow fire hastens ventilation when the weather is cold enough. When outside air is as warm or warmer than the air in the cellar, leave the doors and windows open at night.

"The right temperature is that at which bees remain the quietest, and I do not believe that it is, by any means, the same in all cases, but must be determined in each case by experiment. In my main cellar the bees seem to be the quietest when the temperature is about 40° above zero. I usually remove my bees when the soft maples bloom."

Dr. G. L. Tinker says: "Bee-houses should be built double-walled, the roof as well as the sides, and the spaces filled in with sawdust. Six inches of sawdust is enough for this locality, but farther north not less than one foot may be required. Large cellars are better to winter bees in than small ones. In my opinion bee-houses may be ventilated best by two air-shafts in opposite ends of the building, extending from the floor upward through the roof. Where many bees are to be wintered in a cellar, it may be ventilated in the same way. I think that that degree at which the bees keep the most quiet—from 40° to 50° Fahr.—is the best. Try them with a thermometer, and then keep them as near the degree as possible. Take them out of the cellar early, or as early as March 1, in this latitude, and as early as Feb. 15, if the winter is a mild one. As breeding will then begin, if they have pollen, stop all upward ventilation and contract the entrances well. But if they are wintered so far north that flights do not occur often as late as March 1, they should not be put out until frequent flights are assured."

G. M. Doolittle answers thus: "It matters little how bee-houses and bee-cellars are built, providing they accomplish the purpose for which they are intended, i. e., keeping a uniform temperature inside, no matter what are the changes outside. Because a cave in the earth will better accomplish this than a bee-house or a bee-cellar under a dwelling, is why I prefer the cave. I sometimes think that the matter of ventilation is non-important, as bees frequently winter in splendid condition with no special provision being made for any ventilation; but by way of explanation, I will say that I use sub-earth ventilation of 150 feet in length, in connection with a direct upward ventilation of the same size. These ventilators allow of being opened or closed at pleasure, and when I say that they are closed nearly one-half of the time, it will be seen that I do not value ventilation as highly as some do. I endeavor to keep the temperature at from 43° to 45° above zero.

"Bees should be taken out at about the time when the first pollen appears; yet it sometimes occurs that they would be better off if left in the cellar until the willows and hard maples bloom."

Prof. A. J. Cook says that "Bee-houses and bee-cellars should be constructed so as to be independent of outer temperature. If built above ground, the walls should be thick. Any under-ground cellar with a flowing spring of water, and containing a basin holding a barrel which receives and gives out the water continually, is excellent.

"I would always ventilate them with an under-ground pipe 500 feet long; and I should like a pipe also connecting with fire above, so as to produce a current of air. A pipe connected with a chimney will do, however, with no fire. We have such a cellar which has been in use for years, and in it we have never lost a colony. We have been very successful with a temperature of from 38° to 42° above zero. This winter I am trying a higher temperature. The temperature in the cellar is now 48°, and I fear the result.

"I would not take bees out until they can gather pollen. Here it is about April 10."

W. Z. Hutchinson responds as follows: "The walls of bee-houses or bee-cellars should be thick, and made of some non-conducting material. If partially under ground, the temperature can be kept more even. They should be so arranged that the outside air can be admitted directly or through tile laid under ground. There should be a ventilator at the top. That degree of temperature at which the bees are the most quiet, is the best. If the bees are quiet, and show no signs of bee-diarrhea, they need not be taken out until pollen can be gathered."

Messrs. Dadant & Son reply thus: "We have never built a bee-house, but our bee-cellars are deep enough in the ground to be beyond the reach of frost. It is important that they should be dry. We ventilate them by means of windows with blinds. Should blinds be missing, a bunch of straw will do very well to keep the light out and to let the air in. We think that the temperature should be about 42° or 45° above zero. If the bees are not quiet, they are either too cold or too warm. We put them in on the first cold days of December, and take them out on the first warm days of March; but much depends on the location and condition of the bees. If they are quiet, they may be left in longer."

Create a Local Honey Market.

Now is the time to create Honey Markets in every village, town and city. Wide-awake honey producers should get the Leaflets "Why eat Honey" (only 50 cents per 100), or else the pamphlets on "Honey as Food and Medicine," and scatter them plentifully all over the territory they can supply with honey, and the result will be a *demand* that will readily take all of their crops at remunerative prices. The prices for "Honey as Food and Medicine" are as follows:

Single copy **5** cts.; per doz., **40** cts.; per hundred, **$2.50**. **500** will be sent postpaid for **$10.00**; or **1000** for **$15.00**. On orders of **100** or more, we will print, if desired, on the cover-page, "Presented by," etc., (giving the name and address of the bee-keeper who scatters them). This alone will pay him for all his trouble and expense—enabling him to dispose of his honey at home, at a good profit.

☞ To give away a copy of "Honey as Food and Medicine" *to every one who buys a package of honey*, will sell almost any quantity of it.

☞ The long winter evenings will be well occupied by reading bee literature. When renewing your subscription, it will be well to get some good bee-books. See our list of books on the second page and select what you need.

☞ Every subscriber is kindly invited to obtain a *new* subscriber to send with his renewal. Please notice the premiums offered for clubs, on another page.

CORRESPONDENCE

For the American Bee Journal.

Introducing Unfertile Queens.

S. SIMMINS (75—100).

It is seldom necessary to give virgin queens to full colonies, but where queen-rearing is carried on, there are often many on hand, and so must be given to nuclei, either made up purposely to receive them, or those queenless, already established. Much has been said in reference to different plans recommended, but no satisfactory method seems to have been adopted. The plan which I now offer, I believe will meet the wants of all, who, like myself, rear a large number of queens yearly.

Towards evening select as many queenless nuclei as there are young queens on hand, close up each, but allow ample ventilation; then drum on the sides for a few seconds, and permit the queen to run in through a slit previously made in the perforated material, close it at once that no bees may come out, and give them their liberty on the next morning. By first being frightened, and then finding themselves confined, the bees lose their first inclination to attack the restless young queen. As soon as the first fright is over, the quilting should be partially re-arranged to guard against chill during the night, but do not remove the perforated zinc which should cover the entire upper surface. The entrance should be arranged to close or open, without extra fixing.

I would not introduce a queen of any kind to a full colony by this means, but where it is necessary to give a virgin queen to such, it will be at a time when the colony has recently swarmed, and little risk is incurred by permitting her to run down from the top of the frames by first driving the bees back with a little smoke.

I trust that others will try the plan and report thereon during next season. It occurred to my mind, because on very many occasions, when sending queens away with bees in ½-pound lots, I have had to take the bees from a full colony, and the queen from a nucleus. The queen was put in last, and the shipping-box immediately closed, and remarkable as it may seem, not one report of death has been received.

Nuclei can be made up from full colonies, at the same time it is desired to accommodate newly hatched queens, when confined over night in this way; but they must be carried some distance away, and if not removed from the same yard, the bees should be made to note their new location; because every bee which returns to what a few hours since was its own home, will be slaughtered. They will not be accepted by their own comrades after being confined under excitement, even should they have been away only five minutes; hence the caution I have elsewhere given in regard to fertile queens with attendants after being confined on a journey.

This process of introducing queens by fear is quite different from that of inserting fertile queens in full colonies; but the case is exceptional, because of the restless character of the virgin queen whose bearing attracts the attention of the bees, even if she does not first attack them, which frequently has been the case.

Brighton, England.

* * *

For the American Bee Journal.

Chilled Bees are Not "Hibernating."

WM. F. CLARKE.

On page 779 of the BEE JOURNAL for 1884, Mr. Wm. Malone discusses the question, "Do bees hibernate?" and which he answers in the negative, basing his reply on the case of a prairie grey-squirrel which he found several winters ago, and which he considers "a perfect example of hibernation." He concludes that bees do not hibernate because their torpor is not so profound as that of the squirrel which he discovered. But the condition is one that admits of degrees. Bees may not become so utterly quiescent as did the squirrel, and yet hibernate to a certain extent. Mr. Gallup, Mr. L. C. Root, Mr. Allen Pringle, and others, testify that bees relapse into a dormant state, out of which they are "slowly aroused;" even Mr. Heddon uses the phrases, "perfect quietude," and "semi-hibernation." The scientific term denotes a state of winter torpor, whether partial or complete.

Hibernation is not the result of exposure. "Chilled bees" are not "hibernating bees," but bees undergoing the process of being frozen to death. In the early stages of this process they may be restored by warmth, but unless thus restored, they will die. They are not on the road to death when they hibernate. It is nature's expedient for preserving them alive. Mr. Malone confounds two states that are perfectly distinct and opposite the one to the other. Kirby and Spence, in their Entomology, rather poetically speak of spring as "the period when insects shake off the four or five months' sleep which has sweetly banished winter from their calendar." They also argue at length that something more than cold leads insects to retire into their *hybernacula;* and that something more than warmth leads to their re-appearance in spring. That something more is *instinct.* "Chilled bees," as Mr. Malone tells us, invariably show signs of diarrhea when revived by warmth, but it is one of the evidences of hibernation, that they have, as the result of going into that condition, escaped the dread disease.

Mr. S. J. Youngman has my thanks for his frankness in saying, "I think Mr. Clarke's theory has but few friends." He is evidently sorry for me and my theory. Do not fret about us, Mr. Youngman. If the theory be true, it will soon have hosts of friends; if it be false, it will die without any to lament it, for even I shall decline to be a mourner at its funeral.

Speedside, Ont.

* * *

For the American Bee Journal.

Season of 1884—Selling Honey.

A. D. STOCKING (65—80).

Owing to the state of my health, I have deferred making my report for the past season longer than I intended to. I commenced the season with 65 colonies, all in fair condition, having wintered them on the summer stands with chaff cushions over the frames, which was all the protection they had. I lost only 3 by starvation, but several by robbing.

Fruit bloom was abundant, and they got a good supply of honey and built up strong by the time white clover blossomed, but the weather was so cold and wet that they secured but little honey; but before basswood came on, the hickory trees were covered with honey-dew, and the bees soon filled the sections, which destroyed my white honey. This honey was dark and thick, but had no very disagreeable flavor, and I had no trouble in selling it at a reduced price. Basswood bloom lasted only three or four days, but did not yield very abundantly, and the fall was so dry, with very cold nights, that I obtained but little fall honey.

It was a very poor season with me. I got only about 30 pounds of honey per colony, spring count, the most of it being comb honey; but the bees filled the brood-chambers full, and they were put into winter quarters heavy with honey and strong in bees. I had but few swarms, and now I have 80 colonies on the summer stands.

I have sold all my honey for the last three years in my home market, and have not yet been able to supply the demand. I have worked hard to create a home market, and have been successful. I set my own price on my honey, and would not allow it to be sold at any less than the price I put upon it, whilst others brought in honey and sold at lower prices than I did. I was the first one to introduce the 1 and 2-pound sections into this market, and I have taken great pains to put up my honey in sections in a clean and attractive shape. I had some trouble in introducing extracted honey, but I succeeded, and now I cannot begin to supply the demand, whilst there is a good deal of extracted honey in the stores with no sales. I sell a great deal of honey to farmers who come to my apiary for it.

I believe if all honey-producers would go to work and create a home market amongst their farmer neighbors, and in their near country towns; establish a high standard for their reputation for honey of the first quality; produce that honey in an attractive shape, and be careful to keep it there, there would not be so much complaining about the low prices, dull markets, and over-production. The best medium that I have found for advertising has been our County Fair. I took great pains to make a large and attractive display, and was on hand all the time to talk it up and explain it to the people, and I sold all I had there, and could have sold much more.

Ligonier, ♂ Ind., Dec. 30, 1884.

For the American Bee Journal.

New Registering-Blocks.

A. A. FRADENBURG.

Having several times seen, in some of the bee-papers, mention of some sort of plan for registering colonies in an apiary so as to tell at a glance in what condition the colony was at the last examination, I have invented the following device which I think will be found to be cheap and useful. From a 2-inch plank saw off a strip 2 inches wide, plane the four sides, and then make it octagonal, or eight sided, by planing down the four corners. Now paint one face, or side of it, with a bright paint, say a red color, the next face paint a paler red, and the next, say a very pale red; then paint the next face a bright yellow, the next a medium yellow, and the next a pale yellow; and for the other two faces, paint one white and the other black.

When the paint is dry, saw the stick up into blocks about three-quarters of an inch long, or perhaps one-half inch is just as well; then punch or bore a small hole through the center of each block. Now cut off pieces of wire 3 inches long and of a size to fit the holes snugly, and drive one of these wires in at or near the top of each hive so that it will project 2 inches.

Now, suppose we wish to register the condition of the bees in a hive: Push one of these blocks on the wire, and if the colony is strong, turn up the bright red side of the block; if it is only medium strong, turn up the next paler side, and if it is weak, turn up the palest side. Now place another block on the same wire and suppose the yellow color to denote stores, and if the colony has plenty, turn the bright yellow side up; if medium, the next brighter; and if light, the palest color is turned up.

It can now be seen that with two blocks, any two of 16 different conditions of a colony can be indicated at one time, and by adding one more block, any 3 of 24 conditions may be indicated. If the colony is all right, turn the white side up; if queenless, the black side; but, as a general rule, I think that two blocks is all that will be needed, and these can be used just as well on queen-rearing colonies as any other.

If dates are desired, make blocks with 10 sides instead of 8, paint them all white and then paint black figures from 1 to 9 and the 0, one on each face; then by using two of these blocks, any date of the month can readily be given. Another great advantage of this plan is that the colors can be seen from quite a distance in any direction. It is probably the most quickly manipulated device of any yet used; and if the blocks fit the wire rightly, they will not easily be changed by accident.

Port Washington, o+ Ohio.

For the American Bee Journal.

Southeastern Michigan Convention.

The Southeastern Michigan Bee-Keepers' Association met in Plymouth Church, at Adrian, Mich., on Dec. 3, 1884. The meeting was called to order at 11 a. m. by President Gilbert. When the roll was called only a few members were present. The Secretary's and Treasurer's reports were read and accepted.

Mr. D. G. Edmiston reported, as one of the committee which was appointed to confer with the County Agricultural Society in regard to the exhibits at the Fair, and a revision and enlargement of the premium list in the apiarian department, that the society were unable to tell until a late date whether they would be able to hold a Fair or not, and then in their hurry they forgot to make any change in the premium list, so the matter stood unchanged.

Mr. C. J. F. Howes reported as chairman of the committee on foul brood, that a petition had been drawn up and signed by the members of the committee, which requested the Probate Judge to appoint a commissioner of foul brood for Lenawee county, according to the foul brood law of Michigan. The petition was presented to the Judge by the Secretary of this Association, and a commissioner was appointed, but nothing further was done in regard to the matter, as a member afterwards stated that bee-keepers did not like to report their neighbors. The convention then adjourned until 1 p. m.

The convention was called to order at 1:30 p. m. by the President, and 14 members paid their annual dues. The election of officers then took place with the following result: President, C. J. F. Howes, of Adrian; Vice-Presidents, one for each county represented, are as follows: Washtenaw County, Dr. C. F. Ashley, Ypsilanti; Jackson, Joseph Butler, Jr., Jackson; Livingston, F. L. Wright, Plainfield; Hillsdale, G. H. Denman, Pittsford; Oakland, Mr. Boydem; Lewanee, Robert Forsyth, Blissfield; Wayne, M. H. Hunt, Bell Branch; Monroe, H. Scranton, Dundee; Secretary, A. M. Gander, Adrian; Treasurer, D. G. Edmiston, Adrian.

Mr. B. Bailey asked why a colony sometimes loses its queen and has no means of rearing another.

Dr. Sam'l Stevenson said that there were various ways in which a colony might become queenless, one being that at the time of the mating of the young queen (which was to take the place of the old one that left the hive with a swarm), it might be lost while taking its flight, or caught by a bird, or entering the wrong hive on its return, and numerous other ways by which it might be destroyed. At such times the apiarist should be on the alert to supply another queen, for by this time there is no means left them for the rearing of another, and should the colony be left to itself, they would soon become a prey to the moth larvæ, and the inexperienced bee-keeper would say that the moths destroyed his bees, which might have been saved by a little timely attention.

"Why does the honey ooze out of the comb after it is put into a honey-room?" It was generally thought that it was not thoroughly ripened by the bees before capping. Dr. Stevenson said that the bees put the caps on at the right time, but they did not make any calculations on the bee-keepers removing it, thereby preventing that thorough evaporation which it would receive if left on the hive. He also stated that it was the honey gathered early, or the white honey which oozed out, or sweat as some call it. He had never seen it in goldenrod or fall honey.

Mr. Gilbert said that the honey was not ripened before capping, and that combs built during one season and given to the bees the next, would be filled and sealed too soon. He had seen honey in the centre of the hive sweat or run out in the same way, and the bees removed it to other parts of the hive. Mr. Edmiston attributed it to dampness, while W. S. G. Mason attributed it to its being taken off too soon.

Mr. Howes said that when the bees brought in the nectar it was at times very thin, and when the flow was good, the bees needed a large comb-surface to store it in while it was being evaporated; and that the bees would keep up a vigorous fanning and make a roaring noise nearly all night long after a big day's work, the roaring ceasing towards morning, as the evaporation was completed; that the humming or roaring noise corresponded to the amount of evaporation to be done, and that the bees might, when short of room, seal up some of this partly ripened honey. When taken off, it would soon begin to run down over the cappings of the rest, thus making a soiled and unsightly mess of the whole.

Dr. Stevenson said that he did not think that the humming or roaring noise was any indication that evaporation was going on. He had heard bees make the same noise early in the season when there was no honey coming in, while the bees were lying out in large clusters and fanning vigorously inside.

Mr. Howes asked, "Who should keep bees?" He also thought that this locality was overstocked.

Dr. Stevenson said that to make a success of bee-keeping, the bee-keeper should be ready and willing to attend to the needs of the bees at the right time, and to be very careful of the small circumstances which go to make up the sum total of bee-keeping. To overstock a locality he thought almost impossible when there was a good flow of nectar; and at other times when there was no honey for the bees to gather, a very few colonies in a place would be too many.

Mr. Gilbert said that where but a few colonies of bees more were kept in a place there would be no trouble with overstocking; but where 100 or 150 colonies were kept with others near by, that there might be such a thing as overstocking.

At this stage the convention was favored with a song by Miss Osborne, entitled, "Charley, the Bees are Swarming."

"What is the best method of introducing new queens?"

Mr. Gilbert said that he would not introduce a new queen until the colony had become hopelessly queenless; that he could not get it to accept a queen until it had missed the old queen and began to rear queen-cells.

Mr. Edmiston said that he introduced a queen right away by caging the old queen, then in a little while change the queen, putting the one which he wished to introduce in the cage in place of the old one, and leaving her caged for a time, when the bees never know that they are without a queen. Another way was by changing frames, bees and all, where he wished to change queens from one hive to another.

The next subject discussed was honey-dew.

Dr. Stevenson said that it occurred in his locality (Morenci, Mich., 30 miles west of Toledo, Ohio) in August, and again late in the season.

Mr. Howes wished to know whether it would be safe for winter stores. The Doctor replied that his bees had for winter stores what they stored of it in the body of the hive, and that he was waiting anxiously for the result.

Mr. Edmiston said that he understood by Prof. Cook's writings that there are two kinds of honey-dew, some which is obtained from aphidæ, which is good for winter stores, and that obtained from the bark-louse, which is some different, varying in color and taste, and he was doubtful whether it would do for winter stores, but he would not be afraid to risk it. As to the bark-louse, Prof. Cook thought that they would not trouble long, as they would soon be destroyed by their enemies.

Mr. Overmyer said that it would be almost certain destruction to the bees if it were undertaken to winter them on this honey-dew. Last year his bees gathered some of it and had it for their winter stores; and the result was that in one apiary he lost 154 colonies out of 159, and in another, 89 out of 117. His bees gathered large quantities of it during the past season. It occurred in his locality in mid-summer, and again later in the season. The best use that he could find for it was to feed it to the bees and keep them bred up strong. He had done so with his bees, and they were in fine condition.

Mr. Howes asked how we were to prevent its being mixed with nice, white honey, as some writers call it "abominable stuff," and not fit for hogs to eat.

Mr. Overmyer said that the "stuff" should be extracted, and the bees fed with good syrup for winter, to insure their safety.

Foul brood was the next subject discussed. Dr. Stevenson asked whether the disease really was so prevalent as generally supposed to be.

Mr. Edmiston then gave a description of the treatment which he employed in ridding his apiary of the disease several years ago, stating the necessity of being very careful while handling a diseased colony, and to thoroughly disinfect everything used about it, by boiling thoroughly, using salicylic acid to disinfect the hands, smoker, etc., and also using the acid in the food which is fed the bees just after changing them into a clean hive with frames of foundation. He also thought that not more than one person in fifty would succeed in curing the disease at the first trial, and some would never cure it.

It was decided to hold the next annual meeting at Adrian, Mich., on the last Wednesday in November, 1885.

Sixteen of those present represented 785 colonies, spring count, and 1,280, fall count, and obtained 397 pounds of beeswax, 10,056 pounds of comb honey, and 17,159 pounds of extracted, being an average of 34 2-3 pounds per colony. The price received for comb honey was 15 cents per pound, and for extracted, 11¼ cents per pound.

The annual dues received not being sufficient to pay expenses, it was decided to change the membership fee from 25 cents to 50 cents. The convention then adjourned to meet as above stated, unless the executive committee should decide to hold a spring meeting.

A. M. Gander, *Sec.*
F. W. Gilbert, *Pres.*

☞ The seventh annual meeting of the Nebraska State Bee-Keepers' Association will be held at Tecumseh, Neb., on Wednesday, Thursday and Friday, Jan. 14, 15 and 16, 1885; the first session beginning at 3 p. m. on the 14th. Notices will be posted in the Tecumseh depots, stating the hall in which the meeting will be held.

M. L. Trester, *Sec.*

For the American Bee Journal.

Hibernation, Bee-Diarrhea, etc.

C. W. DAYTON.

Although I consider hibernation, as portrayed by Mr. W. F. Clarke, to be a grand feature in the successful wintering of bees, yet I am unprepared to believe that hibernation alone will lessen the number of our winter losses, as I believe that hibernation will prolong the lives of bees only so long as they remain healthy, and that the ill-health of a colony of bees may be brought about by conditions which are greatly favored by the hibernating condition.

From the gradual appearance of moisture where a uniform temperature is maintained, one might be led to infer that the moisture commenced to condense in the cooler portions of the hive as soon as the bees began to hibernate; sometimes being so slow in its action as to require weeks, if not months, to become readily visible to the naked eye, but at length covering the combs with water within 2 or 3 inches of the cluster of strong colonies. The cause might be attributed to the decreasing heat of the cluster, or too large a brood-chamber.

It is my idea that we have temperature in winter sufficient, and that it is only a question of its continuance as to when we may have nearly a hive full of frost, let the hive be occupied by a pollen or a sugar fed colony. As 9 colonies out of ten having their combs well filled with stores cluster on the lower parts of the combs, yet, in time, frost or water will occupy the combs at the side, if not directly above the cluster, and during a warm spell of weather, when the bees awake for regalement, there will be a job of house cleaning, which will manifest itself in bee-diarrhea, should the weather not be favorable for flight. Such conditions are brought about on the same principle that a chimney may become nearly filled with frost during a spell of low temperature in winter, and when it is warmer the frost melts. Again, a colony may hibernate for a couple of months and the combs may become cold, except in close proximity to the cluster, and without a change of temperature the bees may be awakened by disturbance or hunger, meanwhile sending draughts of warm air amongst the combs, which will immediately cover them with moisture.

When bees having diarrhea are supplied with pure stores, we do not find them evacuating those worm-like masses described by Mr. W. M. Woodward on page 622 of the Bee Journal for 1884, but it is a liquid containing about the same amount of solid matter that composes the excreta of healthy bees. While bees may die from the effects of over-loading the intestines with healthy excreta, which is produced by the consumption of food composed largely of refuse substances, colonies thus afflicted do not emit a diarrhetic odor, nor present to the hand, when held above them, the cold and clammy sensation described by Mr. A. R. Kohnke on page 324 of the Bee Journal for 1884.

The belief that the intestines of a bee cannot become loaded without disease, and that that disease is diarrhea, will not accord with nature, and must be the result of too hasty conclusions. Hence, it requires experience in order to distinguish the disease. An illustration of this may be found on page 651 of the Bee Journal for 1884, where bees were confined at a time when there is more excrementitious matter produced in two days than during four months' confinement after the active labors of the season are ended. While the general conditions described possess nothing pertaining to diarrhetical disorder, the condition of the artificially confined colony being assisted by indigestion, as caused by excitement, furnishes an imperfect specimen of a diarrhetically affected colony, and the effect would have been of a similar character had pollen been excluded.

The condensation of moisture and the accumulation of fecal matter are plain and fixed philosophical facts; but why cane sugar is more of a safeguard against moisture-drinking than honey and pollen, is, I believe, not so well understood. Possibly the result of an experiment, which I tried last fall, may throw some light on that point:

From a normal colony without brood in an observatory hive, the sides of which were darkened by hinged doors, I removed all the combs but four; next I satisfied myself that the four combs contained no honey or pollen, and as it was after all of the flowers had been killed by frosts, it is probable that there was none gathered. Then I fed them 5 pounds of thick sugar syrup, and substituted for a cover to the hive a board having a weather-check clear through it, and coming directly over the centre combs. After a few pleasant days we had a week or so of cloudy and rainy weather, and as it rained there was a continual dropping from the cover upon the bees, which, as could be seen through the glass, were clinging to the combs, turning black and perfectly quiet, and appearing much as they do when hanging on the outside of the hive during a shower in the swarming season. When they flew, a few days afterward, there was no visible distention or disease.

At the time of the flight I inserted between the two middle combs, a comb containing a small patch of capped brood, but no pollen or honey. When it rained again, the bees remained quiet at first, but afterward became greatly aggravated and inclined to sting. When they flew, two days afterward, they appeared as though loaded with honey, the evacuations were copious, and with but few exceptions, nearly transparent, and there was the characteristic odor of prevalent diarrhea. The last part of the experiment was repeated once and the first part twice with the same results. An untried experiment should differ from this in the substitution of pollen for brood, and as bees have so much more energy in the spring to arrange the hive preparatory to brood-rearing. I believe spring to be the time for the trial of such experiments. That pollen may be so substituted hardly admits of a doubt.

Bradford,♂ Iowa, Jan. 5, 1885.

For the American Bee Journal.

Is Dodder a Pernicious Parasite?

W. A. PRYAL.

On page 795 of the BEE JOURNAL for 1884, I notice that a correspondent from Ontario thinks that I did not give sufficient warning as to the destructiveness of the dodder which I communicated to the BEE JOURNAL on page 755. In my very first sentence I stated that there are many varieties of the "plant" (it is not really a plant) scattered over the world. I was not describing the wheat nor the flax dodder of England, but the alfalfa dodder which possibly may also be the lucern dodder. I understand that alfalfa and lucern are nearly, if not identically, one and the same thing, and in my closing paragraph, on page 755, I stated that it will never "be cultivated as a honey-producing plant, on account of its destructiveness to alfalfa."

Again, the "plant" will not grow unless it has the alfalfa to support it. No other plant furnishes, as far as my knowledge of it extends, the required nutriment for its maintenance. Out here, near San Francisco, we have miles of a most beautiful dodder growing on a marsh weed, which grows on the shores of the San Francisco Bay, and which "plant" is admired by overland passengers who come to this State during the fall months. Now, why has not some one "sounded notes of warning" concerning the danger which it might cause? Simply because its nature was such that it was compelled to keep near the salt shores.

In Canada, the home of Mr. M., they have several native species of this "plant," one of which I understand lovingly embraces that much-talked-of and poetical honey-plant, the goldenrod. The flowers of this species of this parasitical plant is of a greenish white, and whether it secretes nectar as does the alfalfa dodder, I am not prepared to say; but, perhaps our friend can, if he lives near the back lakes where the species to which I refer is to be found.

Our alfalfa dodder is a favorite with the bees, and exists on a honey-producing plant; the Canada goldenrod dodder exists likewise, but as to its honey-producing virtues, I know not; so for this reason it would be interesting, and advisable too, for those who have made any observations in this regard, to communicate them.

This question I should like to have answered: "Do all dodders (*cuscutacæ*) which grow on honey-producing plants yield honey?" Referring back to the Canadian and the alfalfa pest: The last named is the death of the plant upon which it preys; but not so with the former one; for, as I learn, the supporting plant does not suffer in the least from the close embrace of its dependent.

I must state that I am glad that Mr. Mitchell again called up this subject, not that I think I did not sound a sufficient "note of warning," which I acknowledge is a good and proper thing to do in cases of danger, but as there are many species of dodder in America which exists on useless weeds and plants, and which may be valuable honey-plants, and being unlike our alfalfa pest, harmless to our valuable crops, may be allowed to grow with perfect impunity for the benefit of the bees. Now, who is prepared to shed further light upon this subject? I shall be pleased to learn more about this class of "plants." However, let me be understood to say that no matter how harmless the plant may be to some plants, I strongly admonish all to give it, as far as cultivating it is concerned, the cold shoulder.

Do not write me for seed of any of the plants which I may describe in the BEE JOURNAL, as I am not in the seed-growing business.

Since the above was written, I have found a communication in the *Pacific Rural Press*, written, I believe, by a member of the Agricultural College of Colorado, for the Denver *Farmer*. It really seems that there are several species of dodder that prey upon alfalfa. I quote as follows: "The plant sent for identification I recognize as *cuscuta chlorocarpa*, and this particular species has been abundantly introduced into the various parts of the State in alfalfa seed during the past season. Besides the species just mentioned, there is another one, *cuscuta glomerata*, growing on the alfalfa on the College farm, with pale, brownish stems, and rather pretty, pure white flowers. It was very likely introduced in the first sowing of alfalfa on this farm. Although many of the species are quite beautiful in their various shades of golden yellow, yet it is nevertheless a most pernicious weed, which has done much damage to the flax and clover fields of this country and Europe, and to the alfalfa fields of California."

To quote further from the lengthy article is unnecessary. The main fact to be established is, "Is the dodder a pernicious parasite?" This is now, I think, to be fully established beyond a doubt; so we will all abide by the verdict.

North Temescal,+o Calif.

For the American Bee Journal.

Haldimand, Ont., Convention.

The Haldimand Bee-Keepers' Association met at Canfield, Ont., on Dec. 12, 1884. The minutes of the previous meeting were read and approved.

Mr. Kindree said that he was using two kinds of hives; he liked a chaff hive with a half story on top. He uses frames 11x13 inches, and prefers a deep frame, as it keeps the bees further from the cold. He is very successful in wintering bees.

Mr. Smith advocated the use of a deep frame. He had used the tenement hive, but had discarded it, and he is about as successful as any one.

G. B. Jones advocated a double-story, shallow-frame hive.

The Secretary prefers a deep-frame hive, believing it to be easier to handle than a wide, shallow-frame, and better for winter. It was the opinion of the convention that the two-story hive is the best for all purposes, and there was a decided preference for deep frames.

Mr. Kindree believed that it was a great advantage to use foundation; for more honey could be produced by its use.

Mr. Holterman thought that it was a disadvantage at some times; but if extracting was properly attended to, the use of foundation is a decided advantage.

G. B. Jones was in favor of the use of foundation, care being taken that the bees do not fill the cells with honey to the exclusion of the queen.

The Secretary was in favor of the use of foundation, and thinks that its use is very beneficial. He recommended dipping the foundation in warm water where it was found too hard for the bees to draw out.

Mr. Jones preferred natural swarming, and said that a natural swarm works with more energy than one made by division.

Mr. Holterman had tried both dividing and natural swarming, but preferred dividing.

Mr. Kindree had tried both ways, and preferred natural swarming; but if he had a young queen to spare he would prefer dividing.

Mr. Smith thought it hard to prevent increase.

Mr. Kindree allowed his bees to swarm once, cut out extra queen-cells, and gave the bees plenty of room.

Mr. Holterman thought that plenty of shade in hot weather would prevent swarming.

Mr. Jones advocated giving plenty of room and shade. Those colonies in the shade were the latest to swarm, and gave the largest swarms.

Messrs. Kindree, Holterman, Smith and Jones described their methods of managing bees, which were in accordance with the plans recommended by leading authorities on apiculture.

The next meeting will be held at Cayuga on Friday, Feb. 13, 1885, at 10 a. m., for the election of officers and other business. A vote of thanks was tendered the officers of the Grange for the use of their Hall. E. C. CAMPBELL, Sec.

For the American Bee Journal.

Wintering Bees—Hibernation, etc.

5—WM. MALONE (23—38).

In the winter of 1882-83 I prepared a colony of bees with which to experiment. This colony was in a 10-frame Langstroth hive on 8 combs spaced so as to correspond with the hive, and the hive was only one story high, and had two thicknesses of coffee-sacking fitted tightly over the frames, and a loose cover on the hive. The colony clustered in the centre of the hive, and was about as large as a wooden pail. On Jan. 1, 1883, the mercury went down to zero, and remained near that point for six weeks, during which time I raised the cover 3 inches above the hive, and nearly every day in the week, during that time, I examined those bees by rolling back the coffee-sacking, but did not disturb them in any other way. The bees on the outside of the cluster soon began to hibernate, while those in the centre were lively and ready to fly or sting every time I rolled back the cover. The bees on the outside of the cluster soon died, while those on the inside were always lively. About the middle of February we had three days of warm weather, and the bees showed signs of bee-diarrhea, and carried out the dead bees. Now, did those bees which wintered on the inside of the cluster have the diarrhea, or was it only those which were partly chilled which had it?

During the summer of 1870 a patent-hive vender visited this neighborhood. His hive had 8 frames about 10x14 inches, with a moth-trap at the bottom, and a honey-board with two 8-pound boxes for surplus honey over the brood-nest, with holes to correspond in both honey-boxes and honey-board.

The vender's instructions were to close the holes with a tin slide furnished over the bees, when preparing them for winter. Three of my neighbors and myself bought some of these hives and transferred our bees into them. We closed the holes in the honey-board as directed, and the result was that all the bees died. The bees which were in box-hives and log gums, by the side of the patent hive, lived and did well. What was the cause of this? The box hives had no ventilation at the top, but had plenty at the bottom; the patent hive had a double door at the bottom, but a full-sized entrance. By accident one of my neighbors left the holes open in the honey-board, and his bees in that hive wintered all right. From that we all took the hint and have had no more trouble; but we had tried those hives two winters before we discovered the difficulty.

On page 809 of the BEE JOURNAL for 1884, is an article containing advice to beginners. It advises to smoke bees at the entrance of the hive; but let me say, never smoke the bees at the entrance unless you want them to stop work for 10 or 15 minutes. If the bees are gathering honey and the sun is shining, it will not be necessary to smoke them, otherwise you may have to employ a little smoke. I would never wish to manipulate the hive at its rear end, but always at its side with my right hand next to the entrance. Never let the bees know that you are near them until you are rolling back the cloth which covers the frames; uncover one-half of the frames at a time, and if a bee alights on your nose or hand, do not strike at it, for if you do you will get stung; but if you pay no attention to it, nine times out of ten it will not sting. At least that has been my experience with Cyprians. The figure 5 before my name, at the beginning of this article, indicates the number of years I have been engaged in the bee-business; if others choose to follow the suggestion, we will all understand it.

Oakley, ♀ Iowa, Dec. 29, 1884.

☞ Do not forget to send for a Binder in which to file your JOURNAL and thus have the full benefit of it during the whole year.

For the American Bee Journal.

The Secretion of Honey.

F. A. HUNTLEY.

In every honey-producing plant there is, each year, a variation in the amount of honey secreted. Sometimes a plant furnishes honey in fairly paying quantities during alternate years; and again, there will be several years during which there is a scarcity or a liberal supply. The same species of plants in different regions seldom afford a like supply of honey from year to year. In many parts of New York our common white clover is the chief among honey-producing plants; while here in central Iowa it was never known to yield a large crop. During the past four years I have anxiously watched the bees at work upon the white clover blossoms; and, though at times their industry has seemed marvelous, yet seldom have they ever secured a surplus over and above that necessary to their own immediate wants.

In this country, buckwheat is no longer what we are at liberty to call a honey-plant. Some ten years ago, in this locality we realized crops of honey in paying quantities from buckwheat; but since that time we have seldom seen a trace of buckwheat honey, even in our largest colonies. Goldenrod has always yielded honey plentifully, but it is fast disappearing as the country becomes more thickly settled, and basswood fails frequently to furnish any honey at all.

If the true cause of the occasional failure in the secretion of honey by the flowers could be ascertained, a remedy might possibly be devised to avert such frequent failures. Prof. C. E. Bessey, Botanist of the Iowa Agricultural College, suggests that perhaps the non-secretion of nectar in white clover blossoms might be due to the very rapid growth of that plant while in bloom. This reason may apply to all plants during their time of flowering. A rapid growth in the plant may cause an interruption in the secretion of nectar in the blossoms. It has been many times suggested that non-secretion of nectar is due to either too wet or too dry weather. The bee-keepers from different parts of the State, assembled at our last State Fair, seemed to be of the opinion that the honey crop of the past season in Iowa was fully two-thirds below the average.

Webster City, ⊙ Iowa.

For the American Bee Journal.

"Working Against Nature."

W. Z. HUTCHINSON (68—94).

Under the above heading, Dr. G. L. Tinker criticises the Heddon method of preventing after-swarming; as I have practiced the method for two years, perhaps I may be allowed to reply. In the two years' practice, about 60 colonies have been managed upon this plan, and only *one* has cast an after-swarm: there has been no robbing nor any "disease."

If the Doctor will carefully study Mr. Heddon's method, I think that he will admit that Mr. Heddon never proposed to follow the blind instincts of nature whenever his reason was superior. We find with bees as with domestic animals, that our best interests demand that we cross their instincts at certain times, and exactly accord with them at other times. Every one else, except Mr. Mitchell, has reported success with this method of preventing after-swarming, and I predict that he will in the near future.

In the third paragraph the Doctor evidently misunderstands Mr. Heddon. Mr. Heddon has not said that *after-swarms* were always, or as a rule, or *ever*, any advantage in the amounts of comb honey secured, but that the colony *that cast a prime swarm* came out ahead, even with the after-swarms, too. In the Heddon method of preventing after-swarming, the bees are changed from the old hive to the new while they are of the same parentage, hence it is really no "mixing" at all, nor any incentive to robbing, compared with the Doctor's proposition to unite *different* colonies in the fall.

I am really surprised to see the Doctor advocate the old, troublesome, uncertain plan of cutting out queen-cells, and returning the after-swarm. Queen-cells are liable to be overlooked, and more cells may be started from the last laid eggs; and besides, the time necessary to look over the combs, remove the cells and hive the swarm, is at least five times greater than with the Heddon method in which it is not even necessary to open the hives. I would, also, like to ask the Doctor if clipping queen-cells, putting back after-swarms, and uniting colonies in the fall, is any more in accordance with "nature" than the Heddon method of preventing after-swarming?

Rogersville, ♂ Mich.

For the American Bee Journal.

The Fecundation of Queens.

G. W. DEMAREE.

Mr. F. L. Wright, in the *Kansas Bee-Keeper* of Dec 15, 1884, gives one of the very few instances in which the meeting of the queen with the drone has been observed by the eye of man. Unfortunately for the deeply felt want of positive information on this subject, Mr. Wright was left to guess at the most obscure part of the hidden problem. Mr. John F. Connley, of this State, a man of keen observation, informed me some time since that he, on one occasion, saw a drone chase and overtake a queen; they grappled and fell to the ground. He hastened to the spot and saw the queen rise and fly away, and upon looking for the drone he saw his lordship deliberately crawl up on a piece of rail and soar away to chase other queens. Perhaps I have added some to Mr. Connley's statement, but at any rate the drone took wing and flew away.

In the season of 1882, my bees gathered but little surplus honey on account of excessive rain; notwithstanding, enough came in all the time to keep up breeding, and I had leisure to experiment and observe a great deal. That summer I spent hours and days studying the habits of queens, especially as pertains to mating. I kept a number of nuclei from which queens were making their wedding trips daily; and I had virgin queens in confinement, experimenting in search of a method to mate them while in confinement.

The results of my observations were about as follows: The mating of virgin queens, on the average, takes place on the seventh day of their age; they begin to lay eggs on the ninth day, and the average number of trips they take in the open air in search of a mate is three. The average length of time of their absence when out on a successful wedding trip is 21 minutes. They never make less than 3 trips, and I have seen a few cases where they left the hive 7 or 8 times, and in one case, 16 times. These facts were drawn from observation taken at a time when drones were abundant.

A virgin queen will continue to fly in search of a male until she is 18 days old; and if she fails to mate, she will ever afterwards be a drone-layer. A few queens—perhaps 2 per cent. of them—meet the male more than once, but never seek a mate after they begin to lay. The lengthy, slender princess makes more frequent trips in the air when under the wedding-impulse than do her more portly sisters, and she generally produces the most active workers.

When a queen meets the male bee she never tears away his generative organs as we have been carelessly informed by those who get their information otherwise than in a practical way. It would require the combined strength of hundreds of queens to dislodge the male organ. The queen only bears away the frail inner lining of the organ which requires the least possible force to detach it from its place. This appendage nature seems to have provided to enable the queen to utilize a larger quantity of the spermatic fluid in the act of fecundation.

The above observations lead me to suspect that the cases related by Mr. Wright and Mr. Connley were both, in fact, failures.

Christiansburg, ♁ Ky.

For the American Bee Journal.

Which way should Bee-Hives front?

REV. M. MAHIN, D. D.

It is generally recommended to place hives so that they will front east, southeast or south, and stories are told of the great advantage to be derived from such a position. For summer-time, the principal supposed advantage is, that the morning sun will shine upon the entrance of the hive, and tempt the bees out to the fields in the early morning, and thus prolong the hours of labor, and correspondingly increase the product; but this advantage is only hypothetical. It has no real basis of fact. Ordinarily there is nothing to be gained by the bees being out in the early morning. Sometimes there is. It depends on the habit of the flowers that they are working on. The most of our surplus is obtained from white clover, and that does not yield honey until the sun gets well up in the morning. There are other flowers that yield honey only when the air is moist and not very hot. Buckwheat belongs to this class; and when it is in bloom, the bees must be out early or they will derive little benefit from it.

But I have observed that the position of the hive has little or nothing to do with the time they begin to fly, except in cool weather when it is better for them to remain quietly at home. They find out at what time in the day sweets are to be found; and when the time comes, they will be out and at work without regard to sunshine at the entrance of the hive. A few years ago the woods ¾ of a mile south of my house was infested with myriads of beech-bark lice, and under them the leaves and grass were sticky with the so-called honey-dew. Of course this could only be appropriated when diluted with dew, and in the mornings my bees were out in force long before the sun was up. I could hear the roar of their flight before it was light enough for me to see them. As soon as the dew dried up, they ceased to fly in that direction, and, as there was but little forage except the so-called honey-dew, they were comparatively quiet for the rest of the day.

I have known my bees to go in one direction in the forenoon, and in the opposite direction in the afternoon, the pasturage being different in the two directions, river bottom west, and upland east. All this proves that bees very soon learn not only where, but at what time in the day, stores are the most abundant, and the time when the sunlight shines upon the entrance of the hive has very little to do with their work.

But there are other considerations of much more importance than this. We want to consult the comfort of the bees during the hot weather of summer. It will require but a moment's consideration to perceive that this can best be secured by facing the hive squarely to the north. If sunshine on the front in the early morning is desirable, it is secured in this way, as in summer the sun rises north of east, and in the early morning the north frontage has all the advantage of the east or southeast. But it is during the noon heat that the principal advantage of this position is experienced. While working on white clover, the principal amount of nectar is brought in in the hours between 9 a. m. and 3 p. m.; and any one can perceive the disadvantage to the bees of having the hot, summer sun shining down upon the alighting-board, making it so hot that a bee will be almost scorched by remaining upon it for a moment; and the comfort of having the entrance on the shady side of the hive. Any one who will observe two hives otherwise alike, one facing north and the other south, on a hot summer day, will have ocular demonstration of the difference.

Then, if a broad board is set up against the back of the hive, or better still, if two or three boards be nailed or battened together, making a screen 3 or 4 feet square, be so placed, the comfort of the bees is secured to the largest extent. Thus placed, with proper ventilation, and plenty of room for brood and honey, and the probability of the issuing of a swarm is very small, as I have demonstrated by years of experience and observation.

I had hives in the same yard facing in all directions, and I have found those facing north to be among the most productive.

But how about the winter? If I could conveniently change the position of my hives, I would have them front north in summer and south in winter. At least twice during severe and disastrous winters I have had hives fronting in both directions, and I have found the smallest percentage of loss in those fronting to the south. I like to have the sun shine directly into the entrance of the hive in winter. The principal advantage of the southern exposure in winter is, probably, owing to the fact that the sun melts the snow and ice that would otherwise prevent the proper ventilation of the hive. If that can be secured in any other way, there will, perhaps, be no difference.

Where one has but a single row of hives, and room to move them 8 or 10 feet back and forth, they can be faced about without the least trouble. If they front to the north, and it is desired to have them front south, move them a few feet north, and so place them that the front will be towards the old position. Very little confusion among the bees will result. But with 6 or 7 rows of hives 6 to 8 feet apart, this cannot be done. As my hives stand in six rows not more than 8 feet apart, the only way to turn them would be to do it a little at a time; and that is too much trouble. So I leave them fronting to the north, and see to it that the entrances are kept well open. I used to close the entrances to not more than an inch, and I always had moldy combs in the spring; I now leave the entrances open full size, and have no moldy combs.

If my doctrine in regard to the proper direction in which to place the front of the hive for the summer is regarded by any as heresy, all I have to say is, try it and see; and I am very sure that whoever will do so will be convinced that it is the better way.

My bees had a splendid fly this week and they are in better condition than I dared to hope.

New Castle, ○+ Ind., Jan. 1, 1885.

☞ At the World's Exposition, let it be understood, says Dr. Brown, that "all exhibits of colonies of bees and bee manipulations will *only be during the week of the Convention.* Supplies can be exhibited any time during the Exposition."

Local Convention Directory.

Time and place of Meeting.

1885.

Jan. 14-16.—Nebraska State, at Tecumseh, Neb.
M. L. Trester, Sec.

Jan. 14,—Central Illinois, at Bloomington, Ills.
W. B. Lawrence, Sec.

Jan. 14, 15.—N. E. Ohio & N. W. Pa., at Erie, Pa.
C. H. Coon, Sec., New Lyme, O.

Jan. 15.—Mahoning Valley, at Newton Falls, O.
E. W. Turner, Sec.

Jan. 17.—Marshall Co., Iowa, at Marshalltown, Ia.
J. W. Sanders, Sec., LeGrand, Iowa.

Jan. 20, 21.—N. W. Illinois, at Freeport, Ills.
Jonathan Stewart, Sec.

Jan. 21—23.—Northeastern, at Syracuse, N. Y.
Geo. W. House, Sec.

Jan. 22, 23.—Indiana State, at Indianapolis, Ind.
Frank L. Dougherty, Sec.

Jan. 27.—Cortland Union, at Cortland, N. Y.
M. G. Darby, Sec., Homer, N. Y.

Feb. 4.—N. E. Michigan, at Vassar, Mich.
W. Z. Hutchinson, Sec., Rogersville, Mich.

Feb. 24-26.—International, at New Orleans, La.

May 28.—N. Mich. Picnic, near McBride, Mich.
F. A. Palmer, Sec., McBride, Mich.

June 19.—Willamette Valley, at La Fayette, Oreg.
E. J, Hadley, Sec.

☞ In order to have this table complete, Secretaries are requested to forward full particulars of time and place of future meetings.—Ed.

SELECTIONS FROM OUR LETTER BOX

☞ A. B. Cheney, Sparta Centre,♀ Mich., on Jan. 6, 1885, writes:

During the season of 1884, I obtained 14,500 pounds of extracted and 3,500 pounds of comb honey. The extracted was put up in 5-pound pails, and candied solid. I have about 8,000 pounds of it left.

☞ Henry Alley, Wenham, ♂ Mass., on Jan. 3, 1885, writes:

Bees have been flying for three days past. The winter will be six weeks shorter to them than to those in cellars and bee-houses. All are wintering well.

☞ A. P. Fletcher, East Franklin, Quebec, on Dec. 30, 1884, writes:

The weather here is quite changeable. Last week the temperature ranged from 20° to 30° below zero, and now it is raining, the snow is nearly all gone, and the mud is getting deep. Yesterday the bees came out in force and spotted the snow, besides specking it pretty well over with dead bees. I winter my bees in Root and Manum chaff hives.

☞ M. A. Gill, Viola, ♀ Wis., on Jan. 4, 1885, writes:

The season has been an average one here. The spring opened up fair, and bees were in good condition, but bad weather prevented a very abundant yield of honey from the sugar-maple. It blooms usually from May 1 to May 11, and if the weather is favorable, the bees get a "boom" from it which lasts them through the season. I think that if we could have the same working force and hot nights, bees could gather as fast from hard maple as from basswood. Not having the maple yield, the bees were compelled to wait and build up on clover. The yield from this source was only moderate, but sufficient to secure some surplus, and to build the bees up strong by basswood bloom. Basswood did not blossom, however, this season, until July 20, and it remained in blossom 11 days, 3 of which were very poor, 4 average, and 4 extra days, with hot nights and an atmosphere charged heavily with electricity. I had previously prepared and moved 25 colonies of hybrids and Italians, and they gathered 2,250 pounds of honey in that length of time. I moved them on spring wagons from the prairie to the timber, a distance of six miles, with perfect safety. I had one apiary of 70 colonies of blacks, and in the midst of basswood they did very well (for blacks). I secured 8,000 pounds of the choicest honey, and increased my apiary 1½ per cent. A neighbor bee-keeper with a small apiary of 30 colonies of hybrids, secured a surplus of 120 pounds per colony. My best colony produced 235 pounds of honey. This is no big yield, but is enough to induce me to go on. I am living in a scope of country which has a field of basswood 30 by 50 miles, and it will always exist; for much of the land is so rough that a tree could not be gotten if once it were cut down. The country is well adapted to cows, sheep and bees, as the valley produces grass and corn to perfection, and white clover is becoming plentiful. My only hobby in bee-culture is "hybrids." I will admit that it is not the most pleasant place to ride, at times, but by using plenty of forbearance and perseverance with some smoke and a little fire, I have managed to keep from being "put off" or side-tracked. My experience has been that bees bred from a pure mother, and close up to the imported stock, and crossed with the brown-German drones, are the best bees extant with which to get your bread and butter and honey.

☞ H. Clark, Palmyra, ♀ Iowa, on Jan. 1, 1885, writes:

I have been keeping bees in Warren county, Iowa, for 17 years, and so far as honey is concerned, the season of 1884 was the most peculiar one that I have ever seen. The most of my colonies were good in the spring, and the weather was generally fine, yet there was very little honey for the bees to gather. In June, I took 500 pounds of honey from 60 colonies; but I ought not to have taken that, for they stored no more surplus during the rest of the season, as basswood was a failure. During September the weather was warm, and the bees went by the thousands to the cane mills only to be drowned or crushed. I should have fed my bees and kept them at home. By the latter part of October many of my neighbors' colonies starved, and I have lost 10 up to date. The hottest day here during 1884 was July 23, when the temperature was 98° above zero, and the coldest day was Jan. 5, when the temperature was 30° below zero.

☞ I. J. Glass, Sharpsburg,⊙ Ills., on Dec. 15, 1884, writes:

My "keeping bees" is the result of an incident. A little more than one year ago a swarm of bees clustered on an alder-bush near my garden. I made a box and put them into it, when they readily accepted their new home and went to work. I had not been the possessor of them long before the idea entered my mind to purchase a few colonies and learn the art of handling them. By the following fall I had obtained, from different parties, 13 colonies, 2 of which were weak, so I put them together and placed the 12, on Nov. 1, 1883, in a very damp, muddy cellar, contrary to the teachings of many bee-men. I set them out in the spring after a confinement of 163 days, without loss, and, seemingly, in good condition. Previous to the possession of my first colony of bees, my knowledge of the busy workers was limited to the fact that they possessed stings, and in some mysterious way gathered honey from the flowers; so I procured a book on bee-keeping, and from it I have learned to handle my bees quite successfully. Six of my colonies were in box-hives, and I transferred them without any trouble. During the last summer I increased them to 32 colonies, and I placed them in the cellar on Nov. 17, in good condition, and they have remained quiet ever since. This has been a very poor season for bees in this part of Illinois, and I only obtained about 75 pounds of surplus comb honey; yet I did not work my bees for honey, as my desire was to increase them as much as possible. I have read a great deal about "pollen," "hibernation," "bee-diarrhea," "in-door" and "out-door" wintering, and can any one blame me for being perplexed? In preparing my bees for winter, I do away with a great many "extras," and will report the result next spring.

☞ I. J. Johnson, Utica, Ontario, on Dec. 24, 1884, writes:

I send you a specimen of a plant which grows along the roadsides and its color is blue. Is it a good honey-plant? What is its name?

[It is Viper's-bugloss or blue-plant (Echium vulgare), belonging to the borage family, and like most of these plants, it is a good honey-producer; still it has little to recommend it, others being better for cultivation, and a great many others more attractive in appearance. In some places in Virginia it is accounted a troublesome weed.—T. J. Burrill.]

☞ D. M. Ketcham, Arcadia,○+ N. Y., on Jan. 2, 1884, writes:

I have used buckwheat chaff for packing my hives the past three winters, and I find that it is the best material I have ever used, and so far those colonies with chaff only on the tops of the hives, have wintered the best. It has been a poor season for flowers to secrete honey, and I cannot report more than one-third of a crop. On Dec. 30 and 31 the bees had a good flight, and cleaned out the hives.

☞ Miss Nellie E. Wright, New Salem,○+ N. Y., on Jan. 5, 1885, writes:

My father, who has been a bee-keeper for 15 years, and who was an experienced apiarist, died on April 21, 1884. My father carried 79 colonies into the cellar in the fall of 1883; 3 of them died during the winter, but all the rest came out in the spring strong and in good condition. Father extracted the honey from 40 colonies last fall, and mother and I extracted 116 pounds of very nice beeswax; it was so nice that we received 37 cents per pound for it. As mother and I are now left alone, we have sold the bees, but it looks lonely now in the empty bee-yard.

☞ John Rey, East Saginaw,⊙ Mich., on Dec. 30, 1884, writes:

My bees have been flying for the last three days—in fact it is a January thaw in December. The bees have been busy cleaning house and carrying out dead bees, and in every way preparing themselves for another cold spell. This has been a good winter for bees, so far, and I think they will winter well the rest of the winter, for they have good honey to live on. I notice something on the entrances of my hives. I have some with the bottom-board projecting about 4 inches, and on the rest of the hives the bottom-board is cut off even with the hive, and these are the best, as there is no chance for the snow and ice to form as there is on the bottom-board which projects. In these I used to lose some bees every winter until I found out that my bees were smothered. The entrances used to be stopped up with dead bees from the inside, and the snow and ice from the outside. I now bore about three or four ⅛-inch holes over the entrance, and cut the bottom-board off even with the hive, and leave the entrance open the whole width; and now the entrances are always clear of snow and ice, and the bees seem to push the dead bees out, for in front of every hive I can see a handful of dead bees which the bees pushed out. I use the Langstroth-Telescope hive, and I have not lost a colony of bees in them in three years. I winter my bees on the summer stands with no packing of any kind, and no upward ventilation, and when I take off the sections in the fall, I replace them with a honey-board, and the bees seal every thing up tight, and fix it up to suit themselves.

☞ G. M. Doolittle, Borodino,⊙ N. Y., on Jan. 5, 1884, writes ·

The weather has again been extremely cold here; with the mercury away below zero. The bees are wintering well, however.

☞ Allen H. Thorne, Fountain City,⊸ Ind., on Jan. 1, 1885, writes:

I have 18 colonies of bees packed in bee-houses, the sides of which are made of dressed flooring, and the slanting roof, which is made of light weather-boards, is hung on hinges so as to be raised from the rear. The largest one holds 10 Simplicity-Langstroth hives. The hives stand about 6 inches back from the front entrance, with a slanting board extending down within one inch of the entrances of the hives, and with 8 inches of dry sawdust behind them. I have flax straw over the entrances, so as to darken the hives, and keep out the wind, and thereby keep the bees quiet in all kinds of weather. The season here has been a poor one. There was no nectar to be gathered save for a little while in the spring. I have several colonies of bees wintered on sugar syrup alone with pollen.

☞ D. R. Rosebrough, Casey,⊸ Ill., on Jan. 3, 1885, writes:

My bees are wintering finely. On Dec. 30 and 31 they had a flight which they needed very badly. I have been a reader of the valuable Bee Journal for a number of years, and I also have been a close observer of my bees, and I have come to the conclusion that bees often die for the want of water, especially in chaff hives in the cellar. I think that if Mr. Doolittle had given his bees water last winter, he would have had a different report to make in the spring. Let some one who has a dry cellar try it with a few colonies, and then report in the spring. Milk and honey will cure dyspepsia. I have a young man on this diet, and he wrote his parents that it was doing him more good than anything he had ever tried. He is quite wealthy, and had visited several noted Springs in Arkansas, and had also employed the best doctor in the country, but he finally began to drink milk, and continued it for three months, when I advised him to mix honey with it; he tried it, and is now attending college. He wrote his parents to send him more honey. Honey is curing him, and giving him new blood.

☞ Mr. and Mrs. D. Mohr, Manchester,⊸ Iowa, on Jan. 1, 1885, write:

Having leased our farm of 160 acres five years ago (but we still live on it), we began the keeping of bees, and the following is our report for the past four years, the number of colonies being spring count: In 1881 we had 20 colonies, and produced 372 pounds of comb honey, 1,282 pounds of extracted, and sold $112.78 worth of honey; in 1882 we had 45 colonies, and secured 1,204 pounds of comb honey, 2,026 pounds of extracted, and sold $294.72 worth of honey; in 1883 we had 75 colonies, and obtained 1,510 pounds of comb honey, 2,284 pounds of extracted, and sold $338.30 worth of honey; and in 1884 we had 75 colonies, and took 1,612 pounds of comb honey, 2,503 pounds of extracted, and received $435.85 for the honey sold. From the foregoing it will be seen that the average per colony for the four years, was 59½ pounds, and that the net proceeds in cash per colony was $5.49. No account was kept of honey given away or eaten in the family, but the above figures show the actual amount received for honey sold. We have now 100 colonies in good condition in the cellar. We make our comb foundation on a Given press, and we have never sold comb honey for less than 15 cents per pound, nor extracted for less than 10 cents per pound. The largest yield from one colony, in one season, was 217 pounds of extracted honey. About one-third of the number of colonies were run for extracted honey only.

☞ Jas. Jardine, Ashland,⊸ Nebr., on Dec. 29, 1884, writes:

The fall honey-flow was very short, and I put on the sections very fast to keep the bees from swarming, for it was late in the season. I had 12 swarms. The last one that I saw pass over my bee-yard, was on Sept. 9. I think that they would have fared better had they remained with me instead of going to the woods. A very fine swarm came to my yard and united with one of my weak colonies, and I thought that they were robbing, but I opened the hive and found everything all right and plenty of honey. Last winter I lost 25 colonies, although they had plenty of honey, and many of the others were very weak, so they needed a great deal of nursing to prepare them for the honey-flow. During the past fall I made a bee-cellar 12x24 feet and 8 feet high. The walls are plastered with mortar, and the roof is made of matched boards. When it was all dried nicely, I put 120 colonies of bees into it on Nov. 20, piling them up four high all around, and the temperature is 40° above zero the most of the time. They seem to be doing very well now.

☞ J. C. Thom, M. D., (140—249) Streetsville, Ont., writes:

In a communication to the "Beeton World" of Dec. 18, 1884, I notice that I, as President of the Ontario Bee-Keepers' Association, am called upon by Mr. Allen Pringle to express my views as to the desirability of a change of the organ of that association from the "Canadian Farmer," to that of some periodical devoting itself entirely to bee-culture and its allied interests. At the outset I wish it to be understood that I present my views not as an official of the Ontario Bee-Keepers' Association, but simply as a member and bee-keeper making a specialty of honey-producing. Mr. Pringle asks if the times are not now ripe for establishing a Canadian bee-paper, at the same time proposing Mr. D. A. Jones as its editor. I can only say that if Mr. Jones would undertake the task, no better man could be found to make it a success, and I have no doubt that the Association will at once adopt the new paper as its organ of communication with its members. The interests of honey-producers in Canada (and perhaps also in the United States) have about reached a point where it would be unwise and suicidal for those who expect to continue in the business to encourage their acquaintances, and the rest of mankind, to enter the field (now rapidly being overstocked) of honey-production. Do we not on all sides, in other occupations, hear the cry of over-production and ruinous competition? Are supply dealers not afraid, by the way in which they are encouraging all and sundry to go into the business, of so injurying specialists, who ought to be their best customers, that in the end it will re-act on their own business? I am not one of those who believe we can induce the general public to consume unlimited quantities of honey at paying figures to the producer, especially with sugar at the present prospective prices. In conclusion then I would say, instead of having the proceedings of our societies published in newspapers devoted to other objects than bee-culture, let us encourage the papers devoted to our special pursuit, and it will assist in putting the evil day of over-production a little farther away; and if a little of the selfishness common to other classes of our fellow mortals were manifested by apiarists, then our pursuit would be placed upon the basis which was lately so ably advocated by Mr. Heddon and others in the columns of the American Bee Journal. The trouble of the future, and in fact of the present, I anticipate will not be the problem of producing, wintering, and the general care of an apiary, but the marketing and disposal of products produced with much toil and expense, at such living prices as a man's skill and labor should entitle him to.

☞ Green R. Shirer (6—9), Greene,♁ Iowa, on Jan. 7, 1885, writes:

The past season was very fair in this section. White clover and basswood furnished honey profusely, and if full colonies had been managed properly, a good crop would have been obtained, but, as it was, most bee-keepers allowed their bees to swarm at will, and so they got very little surplus honey. There is no one within many miles of here who is posted in bee-keeping, and makes a success of it. Here, bees are allowed to swarm as often as they please, build their combs crosswise in the frames, the moth get among weak colonies, the bees get sick, and their owners do not know what is the matter with them. I sold out in Ohio, last April, and came here, and I soon discovered this to be a good location for honey production. I made some hives, obtained six 3-frame nuclei on June 4, 1884, and on July 4, they averaged ten frames each. On July 20 the strongest colony cast a very large swarm, and in about two weeks cast an after-swarm. I took 125 pounds of surplus comb honey, besides brood-combs enough to winter a colony that I got from a neighbor. My hives are packed inside with chaff, and covered with a snow drift. In the spring I will report on wintering.

☞ C. Russell, Conesville, ⊸ N. Y., writes:

On page 330 of the Bee Journal for 1884, Mr. John Longmate gives a description of his division-board, and wishes any person who thinks he has a better one, to give a description of it in the Bee Journal. I do not know that I have a better one than Mr. L.'s, for I have never used the one which he describes as having a joint in the middle, but after trying half a dozen different styles, I made some after the following plan, which are easily made, and work better than any I have ever tried: They are made of pine boards one inch thick and 1⅝ inches shorter than the hive, inside measure; then, to prevent warping, take two pieces 5-8 by ⅞ inches, and as long as the division-board is wide, fasten one of these to each end of the board with 5 or 6 finishing-nails, leaving cleats back ⅛ of an inch from the face of the board, or even with its back. The division-board is now ⅜ of an inch shorter than the hive, or 3-16 of an inch at each end of the board. If the board is a little too long, trim it off a little with a plane, then take two rubber strips (I use the tops of old rubber boots) about an inch wide and as long as the cleats, nail one of these with ¾-inch wire nails to each cleat, having one edge of the rubber come against the end of the board where the cleats were set back. Now, to have the division-board work the best the rubber must not be bent over the end of the board, but cut off just 3-16 of an inch beyond the cleats. I do this by turning the board over and placing a strip of wood 3-16 of an inch thick against the cleat, and then cut close against that. The most of the division-boards have spurs in the bottom, made by driving two large brads nearly in, and then filing them to a point. My hives carry a standing frame, and do not need the rabbet in them, but I do not see why they would not work just as well in hanging-frame hives by adding the top-bar of a frame. When this board is placed in the hive, it has a square corner, and not the crevice for propolis that some division-boards have. By the edges of the rubber giving as they do, it can be moved either way without any trouble, and all the time be perfectly tight.

☞ John Motl, Watertown,⟜ Wis., on Jan. 9, 1885, gives his report as follows:

I began the season of 1884 with 240 colonies, and increased them to 350 colonies which are now in the cellar, and are wintering all right. They are piled up four hives high. I generally put my bees into the cellar during the latter part of November or early in December, whenever I think that the winter is fairly set in. I pay no attention to the condition of the cellar, whether it is wet or dry; but I always keep it dark. I find out at what degree of temperature the bees are the most quiet, and then endeavor to keep the cellar at that temperature. Last winter I lost none of those that I had in the cellar, but I did lose a few weak colonies of those which were wintered out-doors. My honey crop for the season was between 7,000 and 8,000 pounds of comb honey in sections, all of it having been gathered from white clover and basswood. I have sold 6,000 pounds.

☞ W. J. Davis, Youngsville,⊸ Pa., writes:

The season of 1884 has been the best for honey and bees, in this locality, that we have had in six years. As reported last spring, I wintered 122 colonies without loss, and afterward I sold 45 colonies, which left me 77, one of which had a barren queen, and was wintered for the purpose of testing a certain vexed question (to be reported in the near future). Two others were worthless by reason of age, but counting the whole number, they produced an average of 35 pounds of comb honey per colony, and I increased them to 201 colonies, which are now in comfortable winter quarters in the very best condition, heavy in natural stores of the best quality, and I have 250 heavy brood-combs as a reserve for spring feeding. When it is remembered that we have no basswood to speak of, and but little grazing is done in this locality, and having sold a number of queens, I consider the above a fair showing. This county (Warren) produces rivers of oil, but not rivers of honey. In speaking of oil, it may not be uninteresting to the readers to say that in some parts of this county immense iron tanks, each holding 20,000 or 30,000 barrels of crude oil, are located as near each other as safety will permit, and are filled through pipes direct from the wells several miles distant. Such tanks are occasionally struck by lightning, thus affording a grand illumination at night, and may be seen many miles away.

☞ O. O. Poppleton (114—236), Williamstown,♂ Iowa, on Jan. 5, 1885, writes:

Much sickness in my family during the past three months has caused me to neglect many things that I ought to have done, among others is the making of my annual report. On Dec. 1, 1883, I had 155 colonies in chaff hives; on April 1, 1884, 114 of them were alive, and 41 were dead. Not one of the 41 dead colonies died of bee-diarrhea, but from starvation, being the first experience of that kind that I have ever had. I can give no reason why the first loss I have ever had from that cause, should have been such a heavy one, as all my bees went into winter quarters in full average condition. Bees, combs, and the interior of the hives were all dry, bright and clean in appearance, thus proving the theory to be erroneous, that dead bees in a hive cause the dampness so often found. The colonies that were yet alive were unusually dry, clean and strong, and were all saved. The 114 colonies have produced 12,500 pounds of extracted honey, being an average of about 110 pounds per colony, nearly all of it being nice, white honey, and of excellent quality. This is my smallest average yield for five years; but I am well satisfied with it, considering the season, which was not good. I have now 236 colonies in winter quarters, 172 of them in chaff hives as usual, and 64 of the weakest in a special repository. On account of so much sickness occurring just at the time of arranging bees for their winter quarters, they were not prepared as well as usual, and I expect to suffer more or less loss, should the winter remain as severe as it has been so far.

Convention Notices.

☞ The Marshall County, Iowa, Bee-Keepers' Association will meet at the Court House in Marshalltown, Iowa, on Saturday, Jan. 17, at 10:30 a. m. Subjects for discussion: Spring management of an apiary and apiarian supplies. Essays: M. A. Jackson, "Over Production," and F. H. Hunt, "Queen-Rearing and How to Italianize an Apiary." A general invitation is extended to bee-keepers outside of our own county. All who have anything that will be of interest to bee-keepers, will please bring it along.

J. W. SANDERS, Sec.

☞ The Cortland Union Bee-Keepers' Association will hold its next meeting at Cortland, N. Y., on Jan. 27, 1885.

M. G. DARBY, Sec.

☞ The Northeastern Michigan Bee-Keepers Association will hold its third annual convention on Feb. 4, 1885, at Vassar, Mich. W. Z. HUTCHINSON, Sec.

☞ The regular annual meeting of the Indiana State Bee-Keepers' Association will be held on Thursday and Friday, Jan. 22 and 23, 1885. The meetings will be conducted in the rooms of the State Board of Agriculture, on the corner of Tennessee and Market Streets, in Indianapolis, Ind. It is proposed to make this the most important and interesting meeting of bee-keepers ever held in the State.

FRANK L. DOUGHERTY, *Sec.*

☞ The Willamette Valley Bee-Keepers' Association will hold its second meeting at La Fayette, Oregon, on the third Tuesday in June, 1885. All who are interested are invited to attend. E. J. HADLEY, *Sec.*

☞ The sixteenth annual convention of the Northeastern Bee-Keepers' Association will be held in the City Hall at Syracuse, N. Y., on the 21, 22 and 23 of January, 1885. The executive committee are determined to maintain the high standing and enviable reputation which the Association has justly gained in the past, and at the coming convention they propose to outdo all former efforts. The meeting will surely be the largest and most interesting ever held in America. No bee-keeper can afford to stay at home. All are invited. All implements of the apiary sent to the Secretary, will be properly arrayed to compare favorably with others on exhibition, and will be disposed of or returned, as the owner directs. Reduced rates for board at hotels.

GEO. W. HOUSE, *Sec.*
L. C. ROOT, *Pres.*

☞ It is proposed to hold an International Bee-Keepers' Congress on the World's Exposition Grounds at New Orleans, La., Feb. 24, 25 and 26, 1885. An interesting programme of subjects of great importance to every bee-keeper in America will be presented and discussed. The disposition of our honey product, with a view to secure better prices will be fully considered. At the same time there will be an Exhibit of Bees and Apiarian Supplies. At the time now selected, the Exposition will be at its best, and excursion rates low. The bee-keepers of our country should lay aside business for a week or two, and make every exertion to attend this Convention. Come prepared with facts, statistics and ideas arranged, to take part in its deliberations.

Dr. J. P. H. Brown, Augusta, Ga.
Dr. N. P. Allen, Smith's Grove, Ky.
W. Williamson, Lexington, Ky.
Dr. O. M. Blanton. Greenville, Miss.
P. L. Viallon, Bayou Goula, La.
Judge W. H. Andrews, McKinney, Tex.
W. S. Hart, New Smyrna, Florida.
S. C. Boylston, Charleston, S. C.
H. C. Austin, Austin's Springs, Tenn.
R. C. Taylor, Wilmington, N. C.
J. W. Porter, Charlottesville, Va.
S. Valentine, Hagerstown, Md.

☞ The eighth annual meeting of the Northwestern Illinois and Southwestern Wisconsin Bee-Keepers' Association will be held in Temperance Hall, at Freeport, Ill., on Jan. 20 and 21, 1885. JONATHAN STEWART, *Sec.*

☞ The Mahoning Valley Bee-Keepers' Association will hold its next meeting in the Town Hall at Newton Falls, O., on the third Thursday in January, 1885. The meeting will be instructive as well as interesting. E. W. TURNER, *Sec.*
L. CARSON, *Pres.*

☞ The Central Illinois Bee-Keepers' Association will hold its next annual meeting in Bloomington, Ill., on the second Wednesday in January, 1885, at 9 a. m.

W. B. LAWRENCE, *Sec.*

☞ The Blue Grass Convention will be held at the Court House, Cynthiana, Ky., on Monday, Jan. 19, 1885. All are invited to attend.

A. M. COX, *Sec.*

Special Notices.

The Bee Journal for 1885.

To increase the number of readers of the Bee Journal, we believe, will aid progressive bee-culture and help to elevate the pursuit. We, therefore, offer the following

CASH PREMIUMS FOR CLUBS.

$10.00 for the largest club received at this office before Feb. 1, 1885 (either of the Weekly, Monthly, or both); one Weekly counts same as 4 Monthlies.

$5.00 for the second largest; $4.00 for the third; $3.00 for the fourth; $2.00 for the fifth; and $1.00 for the sixth largest club.

Subscriptions for two or more years for one person, will count the same as each year for a different person.

☞ For two subscribers for the Weekly Bee Journal (or 8 for the Monthly) for one year, we will present a Pocket Dictionary, and send it by mail postpaid.

☞ We will send sample copies free to all who wish them, or desire to get up Clubs. Now is the time to work for the Cash premiums we offer. A large club for the Monthly can be gotten up in almost every locality.

☞ For $2.75 we will supply the Weekly Bee Journal one year, and Dzierzon's Rational Bee-Keeping, in paper covers; or the Monthly Bee Journal and the book for $1.25. Or, bound in cloth, with Weekly, $3.00; with the Monthly, $1.50.

Premium for Club of 10 Subscribers.

The book for every farmer is the one entitled "Affleck's Farmer's and Planter's Record and Account Book," in which there is the most systematic, complete and convenient arrangement of headings for every Farm Account and memoranda of all important events which may occur in connection with his business. Every progressive farmer certainly desires to make a success of his occupation, and should adopt every possible means of bringing about that result. He, then, should have a correct knowledge of his entire business, which he can have only by keeping a correct account of every crop produced on his farm, the cost of production of all his live stock and an itemized account of all his expenses. Then at the close of the year, when he takes off his balance sheet, which is admirably arranged in the book above referred to, he will be able to see at a glance whether his farm does or does not pay.

This valuable book contains 166 pages, is nicely printed on writing paper, ruled and bound, and the price is $3.00. It can be sent by mail for 24 cents extra.

We can supply these books at the publisher's price, or will make a **present** of one copy for every club of TEN subscribers to the Weekly Bee Journal for one year, with $20. Four subscribers to the Monthly will count the same as one for the Weekly.

Now is the time to get up Clubs. Who will work for a copy of this valuable book.

CLUBBING LIST.

We will supply the **American Bee Journal** one year, and any of the following Books, at the prices quoted in the last column of figures. The first column gives the regular price of both. All postage prepaid.

	Price of both.	*Club*
The Weekly Bee Journal,	$2 00..	
and Cook's Manual, latest edition	3 25..	3 00
Bees and Honey (T.G.Newman) cloth	3 00..	2 75
Bees and Honey (paper covers)	2 75..	2 50
Binder for Weekly Bee Journal	2 75..	2 50
Apiary Register for 100 colonies	3 25..	3 00
Dzierzon's New Bee Book (cloth)	4 00..	3 00
Dzierzon's New Book (paper covers)	3 50..	2 75
Quinby's New Bee-Keeping.	3 50..	3 25
Langstroth's Standard Work	4 00	3 75
Root's A B C of Bee Culture (cloth)	3 25..	3 10
Alley's Queen Rearing	3 00..	2 75
The Weekly Bee Journal one year		
and Gleanings in Bee-Culture (A.I.Root)	3 00..	2 75
Bee-Keepers' Magazine (A.J.King).	3 00..	2 75
Bee-Keepers' Guide (A.G.Hill)	2 50..	2 35
Kansas Bee-Keeper	3 00..	2 75
The Apiculturist, (Silas M. Locke)	3 00..	2 90
The 6 above-named papers	6 50..	6 00

THOMAS G. NEWMAN,
925 West Madison Street., Chicago, Ill.

Apiary Register—New Edition.

All who intend to be systematic in their work in the apiary, should get a copy and commence to use it. The prices will hereafter be as follows:

For 50 colonies (120 pages)	$1 00
" 100 colonies (220 pages)	1 25
" 200 colonies (420 pages)	1 50

The larger ones can be used for a few colonies, give room for an increase of numbers, and still keep the record all together in one book, and are therefore the most desirable ones.

☞ To Canadian subscribers let us say that we have made arrangements so that we can supply the *Farmer's Advocate* of London, Ont., and the Monthly Bee Journal for one year at $1.25 for the two.

HONEY WANTED.—I want one or two tons of **White Clover Extracted Honey,** put up in 200-pound Kegs. Parties wishing to **TRADE** such for Bee-Keepers' **SUPPLIES** are invited to correspond with me.

ALFRED H. NEWMAN,
923 West Madison St., CHICAGO, ILL.

YES, WHY NOT?

SEND me your address on a postal and receive a description of **My Improved Hook** for bottom-boards of bee-hives.

CHEAP! SIMPLE! EFFECTIVE!

Pronounced the "**best thing out.**" Sample hook for a two-cent stamp. No room to say more. Write to

HOWARD U. ACKERMAN.
1ABtf NORTH INDIANAPOLIS, IND.

FREE. **SEND Address** and receive our wholesale list of 400 leading newspapers and magazines for 1885. Prices below the lowest. Catalogue of Bees, Queens, Small Fruit, Alsike Clover, etc., on application.

C. M. GOODSPEED,
2A1t THORN HILL, N. Y.

DR. FOOTE'S

HAND-BOOK OF HEALTH,

HINTS AND READY RECIPES,

is the title of a very valuable book that gives a great amount of information, of the Utmost Importance to Everybody, concerning their daily habits of Eating, Drinking, Dressing, Sleeping, Bathing, Working, etc.

It Costs only TWENTY-FIVE CENTS, and contains **28** pages, **and is sent by mail, post-paid, on receipt of price.** This is just the Book that every family should have.

IT TELLS ABOUT

What to Eat,
How to Eat it,
Things to Do,
Things to Avoid,
Perils of Summer,
How to Breathe,
Overheating Houses,
Ventilation,
Influence of Plants,
Occupation for Invalids,
Superfluous Hair,
Restoring the Drowned,
Preventing Near-Sightedness,
Parasites of the Skin,
Bathing—Best way,
Lungs & Lung Diseases,
How to Avoid them,
Clothing—what to Wear
How much to Wear,
Contagious Diseases,
How to Avoid them,
Exercise,
Care of Teeth,
After-Dinner Naps,
Headache, cause &
Malarial Affections,
Croup—to Prevent.

IT TELLS HOW TO CURE

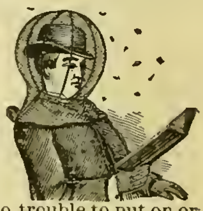
Black Eyes, Boils, Burns, Chilblains, Cold Feet, Corns, Coughs, Cholera, Diarrhœa, Diphtheria, Dysentery, Dandruff, Dyspepsia, Ear Ache, Felons Fetid Feet, Freckles, Headache, Hiccough, Hives Hoarseness, Itching, Inflamed Breasts, Ivy Poisoning, Moles, Pimples, Piles, Rheumatism, Ringworm, Snoring, Stammering, Sore Eyes, Sore Mouth, Sore Nipples, Sore Throat, Sun-stroke, Stings and Insect Bites, Sweating Feet, Toothache, Ulcers, Warts, Whooping Cough, Worms in Children.

It will Save Doctor Bills!

Price only **25** Cents. Sent by Mail, post-paid,

THOMAS G. NEWMAN,
925 West Madison Street, CHICAGO, ILL.

A NEW BEE-VEIL.



There are five cross bars united by a rivet through their center at the top. These bars are buttoned on to studs on the neck-band. The bars are of best light spring-steel; the neck-band of best hard spring brass; the cover is of handsome light material. It is very easily put together, no trouble to put on or take off, and folds compactly in a paper box 6x7 inches by one inch deep. There would be no discomfort in wearing it either day or night, and the protection against Mosquitoes, Flies, Bees, Gnats, etc., is perfect. The weight of the entire Veil being only five ounces. **Price, by Mail or Express, $1.00.**

ALFRED H. NEWMAN,
923 West Madison Street. Chicago, Ill.

THE POULTRY RAISER, 69 Dearborn St., Chicago, Ill.

Only 25 cents per year, for 12 numbers of 16 pages each. $100.00 in gold free. Send 2c. stamp for sample copy. 2C3t

---

65 *ENGRAVINGS*

THE HORSE,

BY B. J. KENDALL, M. D.

A TREATISE giving an index of diseases, and the symptoms; cause and treatment of each, a table giving all the principal drugs used for the horse, with the ordinary dose, effects and antidote when a poison; a table with an engraving of the horse's teeth at different ages, with rules for telling the age of the horse; a valuable collection of recipes, and much valuable information.

Price 25 cents.—Sent on receipt of price, by

THOMAS G. NEWMAN,
925 West Madison Street, CHICAGO, ILL.

THE BRITISH BEE JOURNAL

AND BEE-KEEPER'S ADVISER.

The British Bee Journal is published SEMI-MONTHLY, at Seven Shillings per annum, and contains the best practical information for the time being, showing what to do, and when and how to do it. **Rev. H. R. PEEL, Editor.**
LONDON, ENGLAND.

WEEKLY EDITION
OF THE
AMERICAN
ESTABLISHED IN 1861
OLDEST BEE PAPER IN AMERICA
BEE JOURNAL
PUBLISHED AT
925 WEST MADISON-STREET, CHICAGO, ILL.
Weekly, $2 a year; Monthly, 50 cents.

THOMAS G. NEWMAN,
EDITOR AND PROPRIETOR.

Vol. XXI. Chicago, Jan. 21, 1885, No. 3.

☞ Those who will need anything in the line of hives, sections, crates, etc., next season, should *now* look over the stock and order them from some reliable dealer, and have them on hand when wanted for use. *Then* supply dealers may be too busy to be prompt in filling orders, and thereby cause much annoyance at the apiary. To avoid all such calamities, order now and get them where you can put your hand on them when wanted.

◆

☞ The Chicago *Times*, on January 15, published a telegram from one of the interior counties in this State, saying that "the bee-business is growing rapidly; the stands are wintering very well." It might be more interesting to some to know how the *bees* were getting along this cold weather, rather than to get any information about the "stands," which are simply the places where the hives are put. Is there no need of more correct nomenclature—of calling things by their right names?

◆

☞ Mr. Arthur Todd, of Philadelphia, Pa., will be at the Convention at Syracuse this week and there exhibit "a *Bacillus alvei* and a spermatozoon of a bee, mounted by Mr. Frank Cheshire, himself, and a copy of his letter with more bee-news."

◆

Catalogues for 1885.—We have received the following:

H. F. Moeller Mfg. Co., Davenport, Iowa.
Paul L. Viallon, Bayou Goula, La.
Apiarian Supply Co., Wilton, Iowa,

◆

☞ From an investment of $2.00, every subscriber to the Weekly BEE JOURNAL for 1885, will receive fifty-two dividends.

The Freight Tariff on Honey.

Messrs. E. France & Son, Platteville, Wis., on Jan. 8, 1885, write as follows on this subject:

> At the National Convention, the subject of having the railroads make a classification for extracted honey, was introduced by the Editor of the BEE JOURNAL, and was referred to the Vice-Presidents; but we should like to ask whether they will be likely to report, or what is expected of them. Our railroads are controlled by men of justice, and all railroad officials to whom we have explained why bee-keepers want to ship extracted honey as such, instead of syrup, say that they will give it a classification if bee-keepers and shippers in general want it. Now, do not the Vice-Presidents of the National Society represent the "bee-keepers and shippers in general?" If so, will they do the wish of their constituents, and soon give us a classification?
>
> We do not wish any one to think that we are finding fault, but we do feel that this subject is worthy of the attention of all bee-keepers. We obtained 31,000 lbs. of honey during the season of 1884, and as it has been sent as syrup, we, as some of the many bee-keepers, would like to sell honey and have credit for shipping *honey*, instead of syrup.

It is not at all likely that the Vice-Presidents (to whom this matter was referred) will make a very formidable move in this important matter, especially as they have either not all been appointed, or else such appointments have not yet been offered for publication.

As the matter was referred to such a large committee, scattered over the entire Continent, it was evidently intended that there should be no definite move made for the present—at least that would be a legitimate conclusion to arrive at.

As the editor of the BEE JOURNAL took the initiative, by writing a short letter to the Convention on the subject, we have felt it to be our duty to follow the matter up by using our influence on the Railroads to have the matter satisfactorily adjusted, and as a result, we have *new* classifications on the through lines East, of which we will give the following as a sample:

> "Tariff No. 44.—Great Central Route—Blue Line; owned and operated by the Michigan Central, New York Central & Hudson River, Boston & Albany, Philadelphia & Reading, Fall Brook Coal Co. & Connections.—January 1, 1885.
>
> "Bees in Hives—4th class.
> Bee-Hives (knocked down), 3rd class.
> Bee Comb, boxed, 3rd class.
> Honey in glass, 1st class.
> Honey in barrels or casks, 3rd class.

In order to make this classification understood, we will enumerate the rates between Chicago and New York: "First class, $1; second class, 85c.; third class, 70c.; fourth class, 60c., per 100 pounds."

It will be seen that something has been done, if not by the authorized Committee. They may be at work, too, but we have heard nothing of it. Before the present year is out, we think that there will be no cause for complaint by bee-keepers about the classification of bees, hives, honey, etc.

◆

The International Congress.

Concerning the Meeting of the Bee-Keepers of the World, to be held at New Orleans, Feb. 24-26, 1885, Mrs. L. Harrison, of Peoria, writes as follows to the *Prairie Farmer*:

> The time for holding the International Bee-Keepers' Convention has been wisely chosen, after consulting the wishes of many. The railroads are offering very low rates of fare. Many women, pining at home for a change, would be renewed in youth and vigor by the pleasure such a trip affords; the cost would be no more than that of a nice dress, which a woman of ingenuity could do without, by renovating her old ones. A dress would soon be worn out, or laid aside for another, but the rich food for thought, gleaned at the Exposition, would be fresh and bright through life. It is profitable and pleasant for people of like occupation to meet together and compare notes. The apiarian exhibit includes the products of all nations, and is worthy of careful study. New Zealand, Cuba and other islands are now sending to our shores for implements of the apiary. Ideas and thoughts may yet come from these far-off lands, that will be utilized for the benefits of bee-culture in the United States. This Exposition will be a great educator; its object-lessons are given in the products of all climes. The dullest faculties are awakened and stimulated by viewing the handiwork of other men. The cotton-plant, with its seed, bud and blossom and snowy fiber, is a study of itself, saying nothing of the nectar gathered from its bloom. Textile fabrics manufactured from it, are found the world over, and worn by all people.

Tickets to New Orleans and return, are now being sold in Chicago for $12. This presents a grand opportunity at a very small expense. We hope all who can do so will be there.

Next week we expect to be able to state that arrangements have been made at certain Hotels to keep bee-keepers at reduced rates. Meanwhile save up your "stamps" to "get there."

☞ At the World's Exposition, let it be understood, says Dr. Brown, that "all exhibits of colonies of bees and bee manipulations will *only be during the week of the Convention*. Supplies can be exhibited any time during the Exposition."

Queries & Replies.

Bee-Diarrhea in the South.

Query, No. 4.—Why is it that some of my bees have diarrhea and others have not? I have 7 colonies, and all have been fed (more or less) on granulated-sugar syrup, and some are nearly extinct on account of diarrhea, while others are not affected at all. All the queens are rearing brood plentifully, in these infected hives. My bees have been gathering honey all the winter from Japan plum. We have had no winter weather, so far; now, what do you think is the cause of this disease? What can I do to save the bees? Is the new honey the cause of the trouble? Will they come through the winter by rearing brood plentifully? What bees are most subject to diarrhea? Is there any way to stop this disease? How large should the entrance be in winter?—Iberville Par., La.

Prof. A. J. Cook replies as follows: "This is something new, and even an opinion would be dangerous. We had supposed that the South were free from such vexations. If anybody can throw light on this, it will be Mr. Viallon and other authorities in the South. I should look to the quality of the food."

Messrs. Dadant & Son say: "There are two main causes of bee-diarrhea—thin honey and decimated colonies. The bees which have the diarrhea the most are, probably, the weakest colonies; but if they are as strong as the others, then it is the unripe honey that is the cause of it."

James Heddon replies thus: "I am still of the opinion that the cause of all bee-diarrhea is the nitrogenous food which they consume either in the shape of bee-bread or floating pollen in the honey. Of course sugar syrup cannot be expected to prevent bee-diarrhea as long as bees can avoid it and use honey in its stead. My experience is that those bees which breed the most should have the disease the worst. Had there been no new honey or pollen, and not much old pollen in the hives, no diarrhea would have resulted in the case in question. I do not know just what I should do."

G. M. Doolittle answers as follows: "I do not think that bee-diarrhea is the cause of the trouble. As brood-rearing is being carried on extensively, the excrement of the young bees has been taken as implying bee-diarrhea, while the real trouble lies in something else, as poisonous honey, etc. I would give them different combs, except leaving two or three of those containing brood, and feed good sugar syrup for awhile during the day till the Japan plum is out of bloom. Young bees are the most subject to diarrhea. Bees should not have it in Louisiana, it seems to me. I use the whole width of entrance in the winter, but robbers might bother in Louisiana, if thus used."

W. Z. Hutchinson responds thus: "This query 'knocks me completely off of my pins.' I supposed that bees in a climate so warm that they could gather honey all winter, never perished with diarrhea. In the light of what Mr. Doolittle gives us on page 5, it would be interesting to know if the healthy colonies were also breeding. The cause may be in the food. I wish it had been mentioned if those with the most sugar stores were free from bee-diarrhea, or vice versa. I know of no way to save the bees except to change their food; give them empty, clean combs, and feed them a syrup made of pure sugar; if they are much reduced in numbers, it is doubtful whether they can be saved. If they continue to rear brood 'plentifully' all winter, they will certainly 'come through.' I do not know that one variety of bees is more susceptible than another to bee-diarrhea. I know of no way of 'stopping' diarrhea except by giving the bees a flight (and it would seem that they might have that in Louisiana), and feeding them pure cane-sugar syrup. The entrance should be as large in winter as in summer."

J. E. Pond, Jr. says: "In order to give an intelligent answer to this query, a number of facts more should be stated in regard to the condition, etc., of the colonies. Are the dying bees young and lately emerged from the cells? or are they old? Is there any old honey stored in the hives? If so, what is its condition? What is meant by 'gathering honey all winter?' Does that mean every day, or only at occasional intervals? While the whole matter in any case is one of uncertainty, correct answers to the above questions would give a clue to the matter, and tend to explain the cause of the trouble. My experience is that one race of bees is no more liable to bee-diarrhea than another; but that it is the very young bees which are usually affected with it."

Dr. J. P. H. Brown replies thus: "Because the conditions are not the same, bees are very rarely affected with diarrhea in the South; but it can be brought on by feeding very thin, watery sugar syrup or honey during a stress of bad weather, either rain or cold, which prevents the bees from flying. This I have as clearly demonstrated to my satisfaction as a geometrical problem. I have seen the same conditions with bees in leaky, wet and damp hives. If the bees in question must be fed, make the syrup thick, and feed inside the hive on clear, warm days when they can freely fly. The thin, watery honey, no doubt, is the exciting cause. The disease will disappear as soon as there is less rain and more sunshine. In some localities in the South, where the yellow jasmine abounds, the young bees, at about the time they take their first meals, become diseased with a sort of diarrhea caused by the poisonous honey and pollen from this vine. But as the bloom only continues for a few days, it is soon over. In the South it does not matter much as to the size of the entrance. It is better to have it contracted by tin guards to keep out mice when the weather is sufficiently cold to benumb the bees."

Dr. G. L. Tinker answers thus: "As this is the first instance recorded of bee-diarrhea occuring at the extreme part of the South, to my knowledge, it is interesting, as it excludes apparently every one of the theories heretofore advanced to account for it save one, and none more conspicuously than the pollen theory. Even the strong light thrown on the subject in a recent article by Mr. Doolittle, in which late fall or winter brood-rearing is held to be a cause, does not make the matter clear as to these cases; for there was no confinement, and 'plentiful' winter brood-rearing without bad effect, cannot be an uncommon thing in many parts of the South. My belief has been that there is more than one cause for the disorder, since none of the alleged causes (some of which certainly enter as factors) can be made to account for all of the cases. The 'germ' theory may yet have a favorable hearing, and be found to account for many cases. To the ones in question it seems applicable."

G. W. Demaree responds as follows: "It would be quite as difficult to answer why some of the bees in question have diarrhea while others have not, as it would be to answer why some of my fowls have died with the so-called cholera while others have been entirely exempt from the disease. I think, however, the true cause is given; the bees are gathering honey and rearing brood in the winter-time, and however mild the winter, they must be subjected to exposure, and occasional confinement at a time when the nursing-bees are preparing food for the young. I can produce ascites in bees at any time when they are handling new honey and preparing food for the young, by simply setting a case of sealed honey with the bees in it, in a cool, damp cellar. One does not have to wait long to see the results. The sealed honey will condense moisture, and the damp atmosphere surrounding the bees will check exhalation from the bodies of the bees, and dropsy of the abdomen is the natural result. In this experiment we see the necessity of plenty of upward ventilation. Proper ventilation would carry off the moisture surrounding the bees, and healthful exhalation would carry off the excess of moisture in the bodies of the bees, and the grosser matter would pass off in the form of dry excreta. In your climate, when your bees cease to breed in the fall, give each colony from one thousand to two thousand square inches of air-space above the frames; this will regulate untimely breeding, and help the bees to understand that it is winter. These directions are given for Southern locations. I speak from experience. Of course you will cover the frames with quilts at the proper time in the spring.

Farmers' Call.

Thoughts in January.

MAMIE S. PADEN.

I want you, Summer! North winds blow cold,
The white snow shroudeth wood and wold;
The keen frost biteth, chill sleet doth fall,
Shivering icicles cling close to the wall.

In the drear city, trampled and trodden
Out of all whiteness, the snow lies sodden;
Darkened the frost-gleam, the icicle-glow.
Hiding the blue skies wind-driven clouds go.

This is proud Winter I hastened to greet!
Summer, O Summer, come back to me, sweet!
I will not weary, I will be true,
Summer, warm-hearted, forever, to you!

Cincinnati, O.

CORRESPONDENCE.

For the American Bee Journal.

The Cause of Bee-Diarrhea.

JAMES HEDDON.

I think that Mr. Doolittle is mistaken both in his understanding of my meaning by the words on page 773 of the BEE JOURNAL for 1884, and his ideas of the consumption of pollen by mature bees, and where it is logically proper to use the term "primary cause." I am quite confident that however true it may be that cold, confinement, breeding, or any other secondary or aggravating causes or adjuncts are needed in the production of bee-diarrhea, that if the nitrogenous pollen is the cause of the intestinal irritation, it properly ranks as the *prime cause.*

It has been always known that if the bees could fly and unload the fecal accumulations daily, such accumulations could never reach the disease-producing point; so, of course, confinement of greater or less duration is a necessary factor. We also have witnessed that a low temperature greatly favored the development of the disease—thus cold is a factor or secondary cause or adjunct, but not the primary cause. We have always noticed that breeding in confinement in some way aided the primary cause. Now, as many of us have known colonies to perish with this disease when exposed to no low temperature, to no long confinement, and where no breeding was attempted, we certainly are correct in saying that none of them are primary causes. Confinement should not be ranked or spoken of as should cold and breeding. Confinement is the opposite of frequent flights, which simply stop all proceeding of the disease, by unloading the accumulations.

While my observations have not been very extended, yet I have formed the conclusion that mature bees *do* and must eat pollen for their own physical support, whenever they are exercising; and that they do partake of it when they need not, and at their peril

We take their bee-bread and honey, which in many cases may contain a harmful amount of floating pollen, away from them, when they cannot follow their instinctive inclinations, and put in their stead an artificial food (sugar syrup), and one which they will always leave when they can find honey equally accessible to gather and store up for winter. We find as a result that our reason and experiments are safer for the life of our bees than their own instincts. This is the plan upon which we manage our breeding mares and setting hens, and the one proven to be correct.

I look upon Prof. Cook as being so situated that he should be our best authority upon this part of the subject; and on page 7 he says: "It is folly to say that mature bees do not eat pollen, unless they are breeding." This accords with the pollen theory and my former statements.

I have no hesitation in asserting that at the time of the severe loss in Indiana, as referred to by myself, and re-referred to by Mr. Doolittle on page 5, large numbers of their colonies had made no attempt at brood-rearing; and we have all witnessed cases lately where no breeding had yet been attempted. But if Mr. D. could prove that all cases of bee-diarrhea were in the presence of breeding, then if such disease grew out of the consumption of pollen, because they were using it for breeding, and the accumulations were of pollen particles, then I affirm that it is quite clear to the reason of all, that pollen would correctly be called the direct cause. If I have the blues and shoot myself, what does the coroner's jury report? "Died of blues?" No. "Came to his death by a ball from a pistol." Now I assert that when we find that where we fix a colony so that they cannot get pollen in any form, that though they are closed in a long time and exposed to a low temperature, no diarrhea develops, and when they are supplied with pollen, they have the disease in repositories where no low temperature can come, and after a confinement not one-third as long as has heretofore been passed with no disease, and then an analysis of the excreta proves it to be most all pollen, we have a right and an obligation to call the prime cause, pollen.

In my remark on page "773," I had reference only to a possible mistake in the pollen theory, and a thought in regard to the depleting effect of the law of procreation. For years I have protested against the theory of "late breeding to get young bees to winter." I am now glad to have Mr. Doolittle come out on the right side.

A neighbor who had one colony (a last season's captured swarm) recently notified me that they were dead. I went and made an examination, and found it a case of combined bee-diarrhea and starvation. There was not one drop of honey or bee-bread in the hive; many bees were deep in the cells, starvation style; and there were no signs of young bees or breeding. I examined this colony in the fall, and told the owner that they were short of stores. They then had bee-bread; but it is now all gone. What has become of it? The tops of the frames are covered with diarrhetic excreta. This excreta will, upon analysis, show pollen. I am not sure that there is not enough nitrogenous substance in pure cane-sugar syrup to cause a slight accumulation when cold forces the consumption of large quantities, and long confinement prevents any partial discharge of it; but that this food is eminently better than ordinary honey, and destined to practically settle the wintering problem, I do feel confident. My present experiments are such as I hope will settle it in my own mind.

Dowagiac, Mich.

Read at the Michigan Convention.

The Cause of Foul Brood.

PROF. T. J. BURRILL.

This disease is caused by the injurious operations of a minute organism properly classed among the so-called "disease-germs" or bacteria. All allied organisms are exceedingly small creatures, only to be seen with highly magnifying powers; but all are veritable plants, consisting of essentially the same chemical elements and the same organic structure as the higher and larger members of the vegetable kingdom. Some writers class the bacteria with animals, because they usually have the power of moving freely in the liquid media in which they live; but these authorities cannot be well posted upon the characteristics of low vegetable forms, for the power of spontaneous motion belongs to the most of them, as indeed it does to many of the highest plants, in one way or another.

But as plants, the bacteria are very simple in structure—an individual possessing all the capabilities of absorbing food, living, growing and reproducing its kind—being composed of a single cell, and this of very minute size. The cell has, however, a wall of cellulose (wood substance) inclosing a semi-fluid material known as protoplasm, and this is true of all living and active vegetable cells from which all plant-structures are derived. The only appendage or other structural peculiarity of the bacterium cell or individual, is in some species a very fine whip-lash-like filament, which, being capable of rapid vibration, serves as an organ of locomotion. There are no limbs, no sense organs, no special digestive apparatus, no heart, no veins, no nerves. They gain their nutrition by absorption of fluid materials through the cellulose wall, without any special opening for passage of anything in or out.

Propagation takes place by a spontaneous division of the single cell, so as to make of this, two cells. Sometimes the two new cells remain attached, and these may again divide, always transversely, making four cells in a chain-like row. Thus any number of cells may exist attached to each other in a thread, but each cell lives altogether independent of its neighbors, and may at any time become, without injury, entirely separated. There is much difference among the species about this matter of remaining attached, and also a difference in the same kinds, according to the food-supply, mechanical agitations, etc.

Some species, and among them our organism of foul brood, have another method of reproduction, viz: by the formation of "spores" within the cell cavity, which are little masses of condensed protoplasm surrounded by a cellulose wall, and are, therefore, little bacterium cells, which have only to increase in size to become like the parent cell.

Still these spores have physiological characteristics quite unlike the adult cell. They resist the effects of injurious conditions, as of dryness, high or low temperature, chemical poisons, etc., which destroy the organism in other forms. Thus, all species of bacteria, as well as other plants in their normal vegetating condition, are destroyed by immersion for half an hour, in water at a temperature but little above 120° Fahr., while these spores, or some of them, may be actually boiled for a much longer time without being killed.

The organism of foul brood, when not furnished with spores, is killed by simply drying thoroughly in the sun for a few days, first being mixed in sufficient water to thin well the mass in which they exist. The spores, however, live under such conditions for some months, but in my experiments they seem to finally perish in a room kept heated for human occupation, in less than six months. Freezing does not injure the spores, for I have had them develop after having been repeatedly frozen and thawed, and in some cases after an exposure to temperatures reaching 28° Fahr. below zero. But I am not sure as to the action of frost on the adult forms, not having had satisfactory material at hand when the opportunity occurred for trying.

So long as the food-supply is abundant, and the other conditions of vegetative life are favorable, spore-formation does not occur in this species. When, however, the affected larval mass sinks down to the bottom of the honey-comb cell, there is little to be found of the organism but the spores. Cultivated in beef broth, in which the minute plant flourishes as well as in the bee-larvæ, the vegetative stage lasts under the temperature of summer weather (75° to 90° Fahr.) from two to seven days, *i. e.*, spore-formation does not sooner begin. The length of time, however, depends on the quantity of the food-material, and my trials were with diluted broth, and in small quantities ranging from about one-fifth to one ounce, the inoculation being made with a very minute amount of the material containing the bacteria, and, therefore, but few of the latter. Had many been at first introduced, I have no doubt that spores would have been sooner found.

In the bee-larvæ, nothing so definite can now be stated upon this point, but the time seems to be longer. Spores are not found while the larva keeps its proper shape, and not until it sinks down into a jelly-like mass at the bottom of the cell. There is, by this time, a very offensive odor, due, probably, to the gases eliminated by the ferment action of this same organism, yet it does not seem to be putrefactive in its nature.

It ought to be thoroughly understood that no putrefaction or decomposition can take place even in so susceptible a thing as a young, soft-bodied larva, without the intervention of living organisms of some kind. It is, of course, known that young brood dies upon being too much chilled, and decomposition ensues, just as a bit of fresh meat kept in a warm temperature soon becomes putrid. But in both cases the putrefactive changes are produced by living agents, instead of spontaneously arising in the dead organic matter. There are, indeed, as many bacteria in a putrid bee-larva killed by cold, as in one destroyed by the organism of foul brood. Others have said, and I think that it is true, that the odor of foul brood can be detected and determined as different from that of putrefaction after death from other causes.

Sometimes it is certain that the usual putrefactive agents (species of bacteria quite distinct from, though of the same structure and general characteristics as that of foul brood) are found in larvæ dead of foul brood; but knowing well the ubiquitous character of these, I have been surprised to find the greater number of foul-brood specimens wholly free from the ordinary putrefactive bacteria, so that one can with much reliance, gain pure cultures of the foul-brood agent from the dead larvæ. But by taking advantage of the fact that the most common of the putrefactive bacteria do not form spores, one can, by heating the gelatinous material left of a larva dead of foul brood, be quite certain of killing everything except the bacteria of the disease.

Does the organism of foul brood develop elsewhere than in the brood of bees? This is a very important question in the scientific study of the disease, and in our methods of fighting the malady. It might even be necessary to settle the point before a well informed court of justice could properly decide a case. Only a few days ago I was appealed to for any possible help in tracing the introduction of foul brood in an apiary known to have been free from it during many years before. One colony of bees had been secured from a distance, and some months afterward the disease was found in this colony as well as in two or three others. None had been previously known in the neighborhood. Upon inquiry it was ascertained that foul brood had existed in the apiary whence the colony came, but the owner believed it was entirely free from the trouble at the time, and had been for the two years preceding. An examination failed to reveal any suspicion of the disease. The man receiving the colony was certain it was diseased at the time of purchase, the one selling it, was as certain to the contrary.

Now while the evidence at my command goes to show that foul brood usually comes from foul brood, it seems quite possible that in some cases a different source must be sought. There certainly is no difficulty in keeping the foul brood organism through many generations, and lasting through months of time, rapidly multiplying all the time, in beef broth. These thus grown in broth have their characteristic effects when transferred to sound brood.

If this result can be gained artificially, is it not plausible that under some circumstances in nature the organism may live and grow somewhere else than in the larvæ of bees? I have no further positive information upon this point, but there are indications that epidemics among other insects may be sometimes due to the same organism. Indeed, I should not be surprised to find that the scourge of the silkworm, called by the French *flacherie*, is really and truly the same offender; and what is more, we have among our wild native caterpillars, sweeping epidemics caused by the same or a closely similar organism.

During the summer of 1883, the European cabbage-worm (*Pieris rapæ*) died throughout central Illinois in such numbers that their limp forms on the leaves attracted all but universal attention, and the numbers were so decimated that in the early part of last summer, scarcely a butterfly or worm was to be found, nor did they become numerous again during the season. If it should be shown that the cause of this destruction was really the same organism as that found in diseased bees, it would still remain to be proved that they could be transferred through the natural working of affairs, to the bee-hives, from the cabbage fields.

In the absence of knowledge, we may speculate this way: The butterflies lay their eggs upon the cabbage, and may readily come in contact with the dead or dying caterpillars (worms). They also visit flowers to sip the nectar, and now may be followed by bees, which we can see may sometimes carry home, upon this supposition, the deadly invisible foe.

All this is supposition; but does not the possibility of making such speculation suggest the need of further facts? The foul brood question has by no means been answered; for there are scores of queries as pertinent as those here suggested, upon which we have no real knowledge. My own experiments and observations, begun a year ago, have been too little to call a commencement, and unless I am mistaken, aside from such observations as it has been possible for keen-sighted and diligent practical apiarists to make, no one in America has carefully studied the disease from the "germ" stand-point. Two things have hindered my own work, viz: want of time, other things taking precedence, and the necessity of caging the experimental bees to avoid contaminating the bees of the neighborhood. Doubtless Prof. Forbes, State Entomologist for Illinois, with his well trained assistants, can be induced to undertake the matter, and, if so, there is every reason to hope that rapid progress will be made.

It gives me pleasure to acknowledge that since my proposed investigation of the subject of foul brood became known, many kind words of interest and encouragements have been received, and some offers of practical aid. In both ways I have none to thank more heartily than the efficient Secretary of the Michigan State Bee-Keepers' Association.

Champaign,o+ Ills.

For the American Bee Journal.

A Would-be Discoverer.

JAS. M'NEILL.

On page 440 of the last volume of *Gleanings*, Rev. W. F. Clarke heads a lengthy article in which he announces his assumed discovery of the hibernation of bees, with "The wintering difficulty solved at last. Hoorah!" and on page 438 of the BEE JOURNAL for 1884, in commenting on the title of a corresponding article, he says: "But there is no use in giving a small name to a big idea, which I firmly believe the one I have struck, to be. For several years it has been impressed upon my mind that I should some day make a great discovery in bee-keeping. . . . . I find it very difficult to write with that calm dignity and equanimity which befit a literary man. In fact my hand quivers with a tremulous excitement, so that, as the Editor can plainly see, I do not write with my usual steady chirography. I feel very much as Galileo did when the true theory of the universe dawned upon him."

Such an introduction as this, to the sober facts of his discovery, is naturally calculated to arrest the attention of the bee-keeping world, and hold it in bristling expectation. For we very naturally suppose that, in the face of all that has been written on the wintering problem—in the face of the fact that a score of worthy investigators have thought that they had solved it, till the crucial test of experience had disproved their theories,—he who would thus announce his discovery would be sure of his position beyond a peradventure; and that it would be the result of careful and prolonged experiments in which observations, tested and re-tested, invariably pointed to the same result.

But what do we find? Simply this: That while lying on his bed one night, racked with rheumatic pains, his mind went back to the days of his youth, when he was engaged in clearing up a bush farm. In the midst of his reverie, the question occurred to him: "Do you ever remember cutting down a tree in which a colony of bees had been winter-killed?" and immediately came the response—"Never." Then and there he came to the conclusion that the true principle of wintering bees lay hidden in a hollow-tree trunk. Then the word "hibernation" flashed across his mental vision, and his grand discovery was made.

What of the alleged fact which led to this discovery that bees winter well in a tree trunk? The testimony of many bee-keepers is that a hollow-tree trunk gives no more assurance of safe wintering to a colony of bees than an ordinary bee-hive. What of the alleged fact that bees hibernate? He quotes instances where quietness, small consumption of honey, and excellent condition of bees in the spring would favor the opinion that the dormant state is the natural condition of bees in winter; but he furnished no demonstrable proof that bees really do hibernate.

But again: Suppose it be proved beyond a peradventure that bees hibernate, how will the knowledge of this fact help us to solve the wintering problem? Have we not still to learn how to make them hibernate? There is no point in the wintering difficulty upon which bee-keepers are so generally agreed as upon the importance of quietness. While the cellar, the clamp, chaff-packing, upward ventilation, downward ventilation, no pollen, etc., have each their champions who have contended bravely for their particular theory, the end and aim of all the different methods of wintering bees, is to make and keep them quiet during the period when they are confined to the hive. Now, in my opinion, it does not make an iota of difference whether you call this much-desired winter-condition of bees quietness or hibernation, the same difficulties are encountered in discovering the essential conditions of success in either case.

Mr. Clarke thinks that a shaft of air beneath the cluster is the essential condition of successful hibernation. This opinion may, or it may not, be true. It has yet to stand the test of repeated and extensive experiment. It may supply a link in the chain of the essential condition, or it may be discarded as unimportant. If it shall prove, as Mr. Clarke thinks it is, the Ariadnean clew to the wintering difficulty, it will then be time enough for him to write in the grandiloquent strain in which he has already written; and though we might still smile at his inflated enthusiasm, we would accord him his due meed of praise, and hail him as a great discoverer.

Hudson,♂ N. Y.

For the American Bee Journal.

Correct Apicultural Nomenclature.

O. O. POPPLETON.

On page 50 of Prof. Phin's "Dictionary of Practical Apiculture," in his definition of the term "New Idea Hive," he gives what should essentially have been given under the term, "Single-Story Hive," or "Long Hive," either of which are much more proper than the terms which he gives. I do not understand that the term, "New Idea Hive," has ever been properly used to mean simply all forms of long, single-story hives, but only one form of them, that made by Gen. Adair, of Kentucky.

What Gen. Adair claimed as a "New Idea," and for which he named the hive, was not its length, but the principle of having the brood-nest in one end of his hive, with the store-combs or surplus-arrangements between the brood and the entrance of the hive, so the bees were obliged to pass through or around the surplus-arrangement whenever they entered the hive. The terms "New Idea Hives," and "Long Idea Hives" are unquestionably used incorrectly, and a dictionary should only use them to call attention to their incorrect use, and to give the correct terms in their place.

Mr. Phin, in his introduction, commences with the following truthful and timely words: "Not only is our language governed by our ideas, but our ideas, thoughts and reasoning are too often governed by our language." This being true, how necessary is it that no implement or anything else used in our business should be called by names which give no idea whatever of their real uses, especially, of all books, in a standard dictionary.

Williamstown,♂ Iowa.

For the American Bee Journal.

Champlain Valley, Vt., Convention.

The Champlain Valley Bee-Keepers' Association held its annual meeting in Middlebury, Vt., on Thursday, Jan. 8, 1885. It was called to order by President H. L. Leonard, and the minutes of the last annual meeting were read and adopted.

A committee of three was appointed to propose questions for discussion. The following officers were elected for the ensuing year: President, H. L. Leonard, Brandon, Vt.; Vice-President, V. V. Blackmer, Orwell; Secretary, R. H. Holmes, Bridport; and Treasurer, J. E. Crane, Middlebury.

Eleven of the members present reported 1,409 colonies, spring count, 1,634 fall count, and 29,708 pounds of comb honey, and 2,200 pounds of extracted honey, as last season's crop.

The following question was then discussed: "What is the best management to prevent swarming?"

The President said that he had succeeded in preventing swarming by cutting out all the queen-cells; but his experience in this had been limited to one season, and he did not know as it would always prove successful.

Mr. V. V. Blackmer said that he had succeeded in returning second-swarms, and in his experience they had all staid after cutting out all the queen-cells.

This question was then asked: "What is the first cause of swarming?" Mr. J. E. Crane thought that it was the impulse to increase, which is implanted in all creatures.

"Is fall-gathered honey suitable for wintering bees?"

Mr. J. E. Crane said that it had been stated that honey which would not crystallize was not good for bees; but it did not follow that it was good if it did crystallize.

It was asked if cider was injurious. V. V. Blackmer said that his bees had worked largely upon it during the past fall, and he had his fears as to what the result might be. Mr. A. E. Manum thought that it was not as injurious as many supposed. Mr R. A. Damon said that bees might winter on buckwheat honey, but he did not consider it as good as earlier-gathered honey.

Mr. A. E. Manum said, of itself, any kind of honey that we get here in Vermont is not injurious to bees, but the injury comes from a mixture. He had had some experience, but was not yet fully decided. He was quite strong in the belief that cider, grape juice, or honey from goldenrod, heart's-ease or buckwheat, etc., either one of which might not produce bad results of itself, but the mixture forms a compound which is undesirable. He thought that bees would winter on mixed honey provided they often had a flight. For wintering bees, he would prefer to feed sugar syrup, and he thought that it was safer to winter bees on than honey, and he would feed honey in the spring, as there was something lacking in sugar which was required for brood-rearing. He also said that pollen is a good thing, and that he liked to see a good deal of it in his hives in the fall, and never had too much of it.

"What is the best plan for rearing queens?"

Mr. V. V. Blackmer said that the best queens are reared during the swarming impulse.

Mr. A. E. Manum said that he did not get enough queen-cells in this way, and was obliged to force. He was satisfied that he could rear as good queens in this way as any. He rears many of his queens in nuclei, and thinks that a nucleus is as good as a full colony, but he would have it crowded with bees as much as a full colony, in proportion to its size. He would not take eggs from queens, not thoroughly tested, to rear queen-cells.

The President asked if any present had had experience in fertilizing queens from drone-larvæ. None had; but all were of the opinion that it was not practicable.

"Is the traffic in dollar-queens beneficial to the bee-business?"

Mr. H. Briton had purchased 16 dollar-queens of one breeder, and all that he had succeeded in saving proved to be good. He had lost some.

Mr. V. V. Blackmer had bought 26 dollar-queens of another breeder, and got some 2 or 3 out of the lot that were fair; some were hybrids, and some were short-lived. He paid $3 for one tested queen which proved to be worth more than all the rest. He did not believe that, as a rule, it would pay a man to rear dollar queens, and it certainly would not pay the man who buys.

Mr. J. E. Crane said that it was with this as with all other kinds of business—there were two sides to the question. He thought that it depended much on the queen-breeder. He did not see why it should not be all right to rear and sell dollar-queens, provided that they are what they are represented to be.

Adjourned till the third Thursday in January, 1886. The Secretary was instructed to notify bee-keepers, and others interested, of the time and place of meeting.

R. H. Holmes, *Sec.*
H. L. Leonard, *Pres.*

For the American Bee Journal

Bee-Poison and its Effects.

JOS. M. WISMER.

Being an enthusiastic bee-keeper, and believing that it is the duty of all bee-keepers to give to others the benefit of their experience, I cheerfully comply with Dr. Tinker's request on page 714 of the Bee Journal for 1884. He says: "I would ask Mr. Wismer whether he thinks that the venom of a bee-sting and the acid secreted in the stomach of the bee, are identical. If the Doctor will carefully read my article, on page 635 of the same volume, demonstrating my experience with honey and its effects, he will observe that my proposition does not convey the idea as being identical.

It probably will not be amiss to give a few items to illustrate that the scent or odor emitted by the bees under manipulation, is not an acid secreted in their stomachs. The "Illustrated Encyclopedia of Animated Nature" teaches me that some animals are equipped with a two-fold element to defend themselves when disturbed. The first ingredient is utilized to notify its approximation, and the second is destined to demoralize its indefatigable enemies; to this family the bees belong.

On page 485 of Volume XVIII, Mr. Heddon says: "The first breath of bee-poison that I inhaled on my return, was followed by all the former symptoms, seemingly in an increased degree, and in ten minutes my throat turned red and clearly showed severe irritation." My nasal organ being affected with catarrh, and breathing being rather difficult and unsatisfactory, I am compelled to do all my breathing directly through my mouth, and therefrom I have experienced the same difficulty as Mr. Heddon did, with a sharp, pungent taste being rather disagreeable to the respiratory organs, whereby asthma would be effected.

Again, Mr. H. says: "All apiarists know that often when a maddened, threatening bee flits around one's head, she generally discharges her poison into the air. It is recognized by the nasal organ only." I do not think that Mr. H. wishes to be understood that this discharge or bee-poison is an acid secreted in the stomach of the honey-bee—a discharge produced by the bee to saturate the air with a mild poison, only perceptible by those who have keen or enfeebled breathing organs. In opening the hive to examine the condition of the bees, I have at times met discharges emitted through the tops of the frames quite offensive to the breathing organ, and producing mild asthma. Being conceded by many bee-keepers that the black or common German bees are more irritable than the Italians, the consequences are that this discharge of bee-poison is more readily found among the blacks.

I have evidence enough to prove that honey will be permeated with this bee-poison, or formic acid, being confined in the hive after manipulation had taken place. It has been shown that honey ripened by the bees will contain enough of this so-called formic acid to produce severe colicky pains when eaten by some people, and cases are known where it produced death. Honey can be procured from the bees without a particle of this formic acid, and eaten with safety.

The Doctor says that on opening a hive on a cool day, numbers of bees will elevate and protrude their stings, at the end of which may be seen a tiny drop of the poison. What becomes of this tiny drop of poison when the hive is closed? Can the bees retain this poison, or does it evaporate? There is quite a difference in this so-called bee-poison which exists in the honey or on the end of the bee-sting, the first being taken internally, and the second, externally, or under the skin in direct contact with the blood circulation.

Upon showing my family physician Mr. Little's article, on page 747 of the Bee Journal for 1884, concerning the death of Mrs. Sturdevant, who died from the effects of a bee-sting, he coincided with Dr. Horton's ideas as to the manner in which the formic acid had been taken into her system. He further said that the sting of a bee, penetrating the skin of its victim, becomes a perfect hypodermic syringe. Here is where the trouble arises in extricating the stinger, by taking it with the sac of poison between the thumb and finger to extract the stinger, and leaving the poison which the sac contained just where the bee had put it.

Jordan Station, Ont.

Read at the Michigan Convention.

Apicultural Notes for the Year.

PROF. A. J. COOK.

Apiculture, like the sciences, has so many able workers, who are at the same time investigators, that its growth or progress may be actually seen day by day as the weeks go by. It is a question if any pursuit—certainly manual-labor pursuit—can boast of such rapid advance. Each year, and often each month, marks stepping-stones by which the art reaches a higher plane.

With so many investigators—the most of whom are entirely without scientific training—we must expect many faulty generalizations and crude theories to creep into our apiarian literature and discussions. So that the wise apiarist will not accept every statement. It is specially necessary for the bee-keeper to paraphrase John's exhortation thus for his practical guidance: Beloved, believe not every statement or theory, but try the statements whether they be born of truth, for many false views are pushed out into the world. Paul's rule, we should make literally our own: "Prove all things; hold fast that which is good."

Many farmers, as they see the luxuriant fire-weed spring up in the very track of the burning brush-heap, are sure that spontaneous generation is a law of nature. Ignorance is often a strong pillar on which faith undoubting stands. The doctrine of the metempsychosis is no more unscientific than that wheat will turn to chess; yet many a husbandman has no doubts of the frequent occurrence of the latter. Science has long shown the utter fallacy of these statements, and will have to keep battling, for long years before all will see the truth. So in bee-keeping. It will take years to persuade all bee-keepers that the so-called honey-dew does not fall like the gentle rain from heaven, yet that it never so falls, is very certain.

That bees can change worker larvæ to those of drones, is entirely beyond the possibilities even of the very skillful workers; yet I doubt not, if our editors will publish such statements, we shall read them yearly in our apiarian papers. The presence of the spermatozoa or sperm-cells in the eggs insures a female bee. These sperm-cells are so exceedingly minute that it takes a most excellent magnifier to see them at all. We must believe then that as good and wonderful a manipulator as the worker-bee is, to remove these infinitesimal sperm-cells, is quite beyond its powers. It is possible for unfecundated eggs to be interspersed among fecundated ones in the cells, and to be placed in the small or worker-cells, and such must be the explanation when we find drone-brood among worker-brood, even if in the worker cells.

Even more absurd is the notion that crushed tissue of a drone larva may fecundate a queen-bee. Surely, such statements are quite unworthy a place in any of our bee-periodicals.

The new facts, if they be facts, recently developed by Mr. Frank Cheshire, of England, in reference to foul brood, are certainly very interesting. Mr. Cheshire claims to have found the specific cause of foul brood in a kind of bacterium which he calls *Bacillus alvei*. He thinks that these are not confined to the brood, but swarm everywhere in the adult bees, queen, drones and workers, and even in the sperm-cells of the drones and ova of the queen. He thus objects to the term "foul brood," as he believes old bees die from this fungoid affection.

He thinks that honey probably does not contain the spores, but that they—the spores—are conveyed on the feet and antennæ of the bees. Lastly he suggests phenol, as a specific to be used as the cure of the malady. He is not the first to suggest phenol, nor is the idea of the molting of the lining of the alimentary canal with the skin of the larva, original with him, as it is a fact well known to every entomologist.

Now, while we should be very glad of this elaborate investigation by Mr. Cheshire, we may well pause before we join in his cry of "Eureka!" If the adult bees are attacked with the *bacillus alvei*, why do we get none of the characteristic odor from them? and how are we to explain the cure by partial starvation which has been so successful in the hands of Messrs. Jones, Mason, and many others. These well authenticated cases of cure can be explained only on the ground that the active spores are confined to the honey, and that the adult bees are not victims of the malady, and can only convey it in the honey. Again, why is it that so many fail with phenol? While we may all hope much from all such careful research, we must yet wonder whether the bottom-facts are reached in this matter of "foul brood."

The pollen controversy still rages. There can be very little doubt but that bees are better off with no pollen during winter, especially if they are to be confined in their hives for long periods. The argument that bees are likely to be the best judges of a proper diet, counts for nothing in these days of intemperance. I once heard a prominent physiologist assert that no small amount of sickness and disease was caused by hearty dinners on Sunday. How much more likely to suffer would bees be if they take full rations of hearty nitrogenous food during the enforced quiesence of our long, rigorous winters.

In their native climate, bees can fly every month of the year; here they are forced to very different habits, and it is not at all unlikely that these new conditions demand new food-habits. I fully believe that with just the right temperature, bees will eat very little, will remain very quiet, and be very sure to winter well. I also think that if this temperature is not maintained, in which case the bees will become more or less active, then it were far better to have no pollen in the hive.

For many years we have given pollen to some colonies and withheld it from others. Nearly every year has sustained in the sequel the opinion expressed above. The present winter we have given one-third of our colonies large quantities of pollen, the remainder almost none. Should our cellar become unduly warm, or very chilly, I shall surely expect the colonies having the pollen to suffer. Such hearty food and rest are not safe companions. The pollen theory is *not* unscientific, but is just what our physiological knowledge in reference to food would lead us to propose. If bees can fly often, pollen will not effect them illy; if they can be kept very quiet, I think that the same is true; as in this case they would eat little or no pollen. But as it is very difficult to so guage the temperature as to secure either of these conditions, I am sure that we are safer with no pollen in the hives. I would remove all pollen in the fall, and return the frames containing it to the hive as soon as I wished breeding to commence in the spring—about April 10. Had I a cellar just to my liking, I should have very little fear, even if every frame contained pollen.

The coming bee has been often discussed, and if we are all to reach after it, we must know what it is to be. As I have shown in an article which recently appeared in the AMERICAN BEE JOURNAL, the coming bee will have all the good points, and many of these improved, possessed by each of our separate races, and so of course some of the blood of all our races that have superior merits. There is no objection to cross-breeding bees, such as is met in cross-breeding cattle, horses and sheep. Nor is the difficulty of selecting the males in mating any practical estoppel, though it may be a hindrance to the quick securing of the "bee of the future." With our present knowledge and machinery, we can secure drones for mating from our choicest colonies, and while we might reach results sooner, could we know the very best drones in any hive and use them, we shall do nearly as well by precluding the flight of all drones from any but the best colonies. That even the best families of any colony give an occasional weakling among its male offspring, only shows that we must work longer for the coming bee. That we have anything like perfection now, is very doubtful. By judicious crossing and careful selection we shall surely reach results that shall be to the bee of the day, what the sleek, short-horn is to the lean Texan kine of the Western plains.

I might speak of separators, of small sections, and reversible frames, but they will each and all be discussed by abler and more experienced persons. So I will close this paper by some remarks on a very important topic. I refer to the securing of correct statistics.

It is probable that no one thing will so aid us in marketing our honey product, as accurate, reliable statistics. I expect that Mr. Hewit will show us how we can secure, through the crop reports of the Secretary of State, twice each year, just such facts as each bee-keeper desires to know. Now, while I am in favor of our pushing vehemently such action as he may advise looking towards needed legislation to accomplish the most, I am not in favor of stopping there. Why can we not use such funds as we shall obtain at this meeting, in securing a kind of independent report of our own? Why may not the Secretary of this Society secure a reporter in each county, an able bee-keeper who will promise to report the probable crop, each October? He can prepare blanks so that this can be made as easy as possible. Then, as soon as he gets the reports, let him compile them and send his report to the bee-periodicals. At present this could only give us the probable crop, as compared with an average; but soon we might hope that it would grow into a knowledge of the amount of honey and number of colonies of bees. From these two efforts I feel great hopes that Michigan may be one of the first States to prepare such statistical facts as we all desire.

Agricultural College, ♀ Mich.

For the American Bee Journal.

Getting Bees out of Honey-Boxes.

J. H. ANDRE.

It used to be a source of great trouble to me to get the bees out of honey-boxes, especially those that were used on the old-fashioned box-hives, until I hit upon the following:

Take any ordinary box about 3 feet long and 20 inches wide, and put glass in the bottom; it need not be all glass, 2 or 3 small panes will do, but it will be better if it extends almost the entire length in the centre of the bottom of the box. Any odd pieces of glass may be used. Sink the glass a little into the bottom of the box, and now nail strips of lath inside on the bottom, edgewise about 4 inches apart and crosswise of the box. Make a neat-fitting cover without hinges, and then put the box up 2 feet high by resting its ends on something, or legs may be put under it. Put the boxes or crates of honey in on the strips of lath, holes downward, when the bees will see the light and crawl down. In an hour or so, lift the cover and they will rush for the hive. Lifting the cover at two or three times will nearly clean the boxes, and robbers cannot get in.

Lockwood, ♀ N. Y.

* * *

Prairie Farmer.

Notes on Wintering Bees.

MRS. L. HARRISON.

This very changeable winter, with the mercury playing around from zero to temperate, necessitates care on the part of those who have bees stored in cellars or special repositories. A very high or very low temperature causes them to break cluster, and throws them in a commotion. This undue excitement is promotive of disease, as the bees gorge themselves with honey and pollen, when they have no opportunity for a cleansing flight. If necessary, ventilators have been provided, as they ought to have been, and are opened at night, the temperature will be kept down sufficiently. If opening the ventilators does not quiet them, then recourse must be had to carrying in ice, until the temperature is lowered so much that the bees will cluster and hibernate.

This winter, when I put my bees in the cellar, I promised them as pure air as I would want, if living down there myself. With this end in view, as bees are continually dying, we spread down on the cellar-bottom in the interstices between the hives, propolized muslin, which had been discarded for honey-boards, being impervious to air. This stiff muslin is taken up occasionally, and the dead bees emptied into a pail, and carried out to the compost heap, or the muslin is carried out, carefully shaken and then put down again. Dead bees generate dampness, and when many are deposited together, the effluvia arising from their decay is disagreeable and deadly. Sometimes the bees are thirsty while in the cellar, keeping up an uproar until drink is given them. This can be conveyed to them by means of wet cloths or sponges placed against the entrances of the hives.

It is best to keep an eye on bees wintering out of-doors, lest snow or rain gain an entrance through leaky roofs or otherwise. If entrances to hives are large enough to admit mice, they will enter and make sad havoc with both bees and comb. Dead bees and other *debris* must not be allowed to accumulate and thus choke up the entrance, but it must be removed with a bent wire or a small twig. If any hives are found containing dead colonies, lift the frames out and shake off the bees; those that remain sticking in she comb will dry up and do no harm, but if left to decay in the cluster, it will injure the comb. This comb will be valuable for swarms during another season, when the bees will quickly remove the dead without injuring it. Choose a mild day for handling combs, for if they are cold they will break from the frames.

Peoria, ⊸Ills.

* * *

For the American Bee Journal.

Langstroth Hives—Season of 1884.

F. R. MANNING.

I have an apiary of 31 colonies, and I use several styles of hives, but I like the double-portico Langstroth hive the best, for two reasons: First, in the spring, when the bees rob, the portico protects the colony when they come out to fight the robbers. When there is no portico on the hive, the wind will sweep the bees away and give the robbers a better chance to get in. Second, the double-portico hive has room for 7 two-pound sections more than the one-portico Langstroth hive.

I was running my apiary for comb honey during the last summer, but I think that I will try extracting next summer. I obtained an average of 54 pounds per colony, spring count, the past season. Some of the colonies were very weak, and did not produce much honey. The increase was 29 swarms. We had a good crop of white clover, and when that came, my bees were in good condition, and had plenty of honey in the brood-chambers. I wintered them in the cellar last winter, and they are now wintering there again. I examined them to-day, and found them in good condition with but very few bees on the cellar bottom.

My bees are nearly all hybrids. I have some blacks, but I am going to dispose of them in the spring and secure ten good, strong colonies of pure Italian bees. I have now taken the Bee Journal one year, and would not do without it for the price of a colony of bees. I sold some bees last fall, and disposed of all my honey at my house, but did not have half enough to supply the demand; I got 15 and 20 cents per pound. The fall crop was short; but my bees gathered a good supply for winter.

Reynolds,⊸Ills., Jan. 8, 1885.

For the American Bee Journal.

Pleurisy-Root as a Honey-Plant.

J. R. BAKER.

Mr. Heddon speaks very highly of pleurisy-root as a honey-plant. Some three or four years ago I became convinced of the value of this plant as a honey-producer, and I sent one of the flowers to the Bee Journal to find out its name. Prof. Burrill informed us that it was a member of the *Asclepias* family and is commonly known as pleurisy-root and butterfly-weed. At the same time I sent a specimen of a small, yellow flower which grows so abundant here, and on the same kind of soil that the butterfly-weed flourishes, and Prof. Burrill told us that it was wild sensitive-plant.

The pleurisy-root is very plentiful here; but I never saw it grow to any amount only on the very light, sandy soil. That it would grow and do well on good rich soil, I am not prepared to deny; but I am sure that, naturally, it does not seek such. The flower is very handsome, varying in color from orange to rich red. The plant stools out very heavily, and the flowers are freighted with bees constantly. I never knew the little busy fellows to leave this bloom for any other. I am almost certain that this valuable honey-plant must be found almost anywhere where there is a light, sandy soil. I shall try and domesticate the plant and see how kindly it will take to good ground. I shall be pleased to report my success through the Bee Journal.

Prof. Burrill spoke very highly of both the pleurisy-root and the sensitive-plant as honey-producers. I hope all bee-keepers will take pains to report all good honey-plants in their immediate vicinity; and if some one in Texas will send me a specimen of the Texas horse-mint, in its season, I shall esteem it a favor. I wish Prof. Cook would tell us the difference in Texas horse-mint and our wild burgamot or *monarda fistulosa.*

Keithsburg,⊸ Ills.

* * *

Bees in a Church in England.

A correspondent writes: "An extraordinary discovery has just been made in the parish church at Stourmouth, near Wingham, Kent, a nest of bees being uncovered in the roof of the chancel. Its existence was known to the officials, but no idea seems to have been formed as to its size. The "living" has been held for many years by the Rev. Mr. Drake. Some time ago it came to his knowledge that a swarm had settled in the sacred building, but he would never allow their retreat to be disturbed. A few months ago, however, the Vicar died, and as the church had to undergo general repair, the bees no longer were allowed to remain in possession of their quarters. They were destroyed by fumigation, and on the honey being taken, there was found to be nearly 224 lbs. of it. It is stated that during hot weather the honey used to drop down on the floor."

Local Convention Directory.

Time and place of Meeting.

1885.

Jan. 20, 21.—N. W. Illinois, at Freeport, Ills.
Jonathan Stewart, Sec.

Jan. 21—23.—Northeastern, at Syracuse, N. Y.
Geo. W. House, Sec.

Jan. 22, 23.—Indiana State, at Indianapolis, Ind.
Frank L. Dougherty, Sec.

Jan. 24.—Lake Shore, N. Y., at Fredonia, N. Y.
John Benedict, Sec.

Jan. 27.—Province of Quebec, at Montreal, Can.
S. B. La Montague, Sec., Montreal, Can.

Jan. 27.—Cortland Union, at Cortland, N. Y.
M. G. Darby, Sec., Homer, N. Y.

Feb. 4.—N. E. Michigan, at Vassar, Mich.
W. Z. Hutchinson, Sec., Rogersville, Mich.

Feb. 11.—Seneca Co., N. Y., at Ovid, N. Y.
Ira Wilson, Sec., Ovid, N. Y.

Feb. 24-26.—International, at New Orleans, La.

May 4.—Linwood, Wis., at Rock Elm Centre, Wis.
B. Thomson, Sec., Waverly, Wis.

May 28.—N. Mich. Picnic, near McBride, Mich.
F. A. Palmer, Sec., McBride, Mich.

June 19.—Willamette Valley, at La Fayette, Oreg.
E. J, Hadley, Sec.

☞ In order to have this table complete, Secretaries are requested to forward full particulars of time and place of future meetings.—Ed.

SELECTIONS FROM OUR LETTER BOX

☞ J. W. Johnson, Lock Spring,⟜ Mo., on Jan. 11, 1885, writes as follows:

I have 50 colonies of bees in good condition. They had a flight on Jan. 8, being the first that they have had for 30 or 40 days. The past season was a poor one here, 42 pounds of comb honey being the most that I obtained from any one colony; from some colonies I got none. I hope that the next season may be better for bee-keepers than the past was.

☞ A. W. Osburn, of Cuba, on Jan. 8, 1885, writes thus concerning a sample of Cuban honey:

I send you by this mail a sample of Campanilla or bell-flower honey, which please sample and tell us how you like it. The honey is just as it was extracted from the combs, and is not evaporated nor selected.

[The honey is very clear and white, but it lacks "body," and though it is sweet, it does not quite suit our palate as to taste; we much prefer honey from white or sweet clover.—Ed.]

☞ J. Raymond Ball (9—27), Knowlton,♀ Quebec, on Dec. 31, 1884, reports as follows:

The past season here was a very poor one for honey and bees, there having been only about one-third of a crop, as near as I can find out. One man here with 115 colonies took considerable less honey than he did during the season previous with only 53 colonies. Bee-keeping in this Province is getting to be quite an industry; numbers have gone into the business since the introduction of the movable-frame hive, three or four years ago, and they are meeting with fair success. I commenced the season with 9 colonies, all in box-hives, transferred them into the Jones' hives, and increased them to 24 colonies. I sold 1 colony, bought 2, and obtained 2 from a neighbor who was going to sulphur them, and now I have 27, and have taken 400 pounds of honey, mostly extracted. It is all sold, and has netted me 13 cents per pound. My bees did well through May and June, but in July they did nothing, as it rained about every day. Basswood blossomed on July 20, but the bees gathered honey from it only 3 or 4 days. There was a great profusion of dandelion and fruit blossoms here in May and June. The honey-bees scarcely noticed the fruit bloom, but O, goodness, how they everlastingly brought in the honey from dandelion! One colony in a box-hive gathered about 40 pounds in less than ten days, from that source alone. Besides transferring my own bees, I have transferred 22 colonies for other parties, making 31 in all, with good success. My bees are all in a good cellar, and as it is considerably ventilated, I use artificial heat by means of a stove, endeavoring to keep the temperature at about 42° above zero. I find that if it falls much below that, the bees are more uneasy than if it rises some above. I believe if it could be kept at 48°, with plenty of pure air, it would be about right. The 2 colonies obtained from the neighbor are fed entirely on granulated sugar syrup, and are without pollen; one of them was made by uniting 3 colonies, and is a monstrous one. The other is only a nucleus, but not a dozen bees have died from either since putting them into the cellar two months ago. I would say to all who intend to keep bees, to buy a good bee-book, take a good bee-paper, study them thoroughly, get a colony or two of bees, and go ahead.

☞ E. S. Hollingshead, Culloden, Ont., on Jan. 13, 1885, writes thus:

Last May I purchased one colony of black bees, and I have increased them to 7 colonies by employing swarming by division. I Italianized 5 out of the 7. In two instances the queens were virgin queens two days old. I picked the old queens from the frames and placed the young virgin queens on them, at perfect liberty, and in both instances the bees accepted them, and in a few days both were laying. The queens were both Italians, and mated with Italian drones. My bees are now in chaff-hives on the summer stands. I have made many blunders during the season, and have taken no surplus honey, but the pleasure that I have had in the management of my bees, has more than compensated me for my trouble.

☞ Gust Murhard, Portland,⟜ Oreg., on Dec. 20, 1884, reports as follows:

The past season has been indeed a very poor honey season in Oregon and Washington Territory, whilst the honey yield of California has been a very abundant one. Oregon and Washington Territory had too much rain, even for web-foot countries, whilst dry California again had had sufficient rain the past season. Oregon and Washington Territory are but poor honey countries anyway, for want of sufficient bee-pasturage. We have no forests of basswood nor fields of Alsike clover yet, nor many other flowers in abundance, which advanced Eastern agriculture and horticulture afford to bees in the Eastern States; and our limited white clover pastures are often frozen out of the ground, when severe sudden frosts catch the ground uncovered with snow. It will be two years before another yield of honey can be expected from white clover, whose bloom has no seed until the second season, and as long as there is no seed in a bloom, neither is there any honey. Our large sage districts in eastern Oregon and Washington Territory are not yet sufficiently settled by bee-keepers for Oregon apiculture to compete with that of California. It is only the wild flowers of the hills and river bottoms with which our bees have to content themselves.

☞ Wm. Morse, Rockford,♂ Ills., on Jan. 2, 1885, gives his report as follows:

I unpacked my 27 colonies of bees on April 16, 1884; 24 of them were in good condition, and 3 were queenless, one of which was robbed the next day. On June 1, I gave one of the 2 remaining, a laying queen, and it produced 69 pounds of honey in one-pound boxes. I gave the other colony a drone-laying queen, and it gave me neither honey nor increase of bees. My 25 colonies I increased to 49 by natural swarming, and I made 3 colonies by doubling nuclei, so that I now have 52 good colonies. I obtained 2,046 pounds of comb honey in one and two-pound sections, and 204 pounds of extracted honey, being an average of 90 pounds per colony, spring count. I sold the honey at home for 10, 12½, and 15 cents per pound, an average of 13¾ cents per pound. On Oct. 15, I packed 27 colonies in chaff on the summer stands, each having 34 to 40 pounds of stores, and on Nov. 5, I put 25 colonies into the cellar, each having 34 to 37 pounds of stores.

☞ N. L. Minor, a deaf-mute bee-keeper of Clarksville,⊙ Mo., on Jan. 12, 1885, gives his report as follows:

Last season I took about 100 pounds of honey from 9 colonies. My colonies were weak, or perhaps I would have secured a larger crop. I do not think that a cellar is a good place for wintering bees, as the ventilation is seldom perfect; I prefer to winter my bees on the summer stands.

☞ L. J. Diehl, Butler,♂ Ind., on Jan. 8, 1885, writes:

My 200 colonies of pure, bright Italians were very active to-day. They are strong in bees, and are in the best condition. I have them on the summer stands. I expect wonders from them next season.

☞ Henry Alley, Wenham,♂ Mass., on Jan. 13, 1885, writes:

The weather continues warm. We expected a cold wave this morning, as promised by "Old Prob," but it did not come. It rained hard yesterday, and the thermometer indicates 58° above zero. If bees cannot come through all right, they ought to die, for the weather is more like that of the South than the North.

☞ Thos. Thurlow, Lancaster,⊸ Pa., on Jan. 12, 1885, asks the following:

The main thing with bees here, is to have them strong enough in the spring to gather surplus from locust bloom, which is better than the linden here. From what I have read in the Bee Journal, pea-flour candy will start brood rearing early. I would like it in the spring. Do you know where I can get pea-flour?

[Take peas and grind them into flour, will be about the only way to get it.—Ed.]

☞ J. M. France, Montrose,♂ Pa., on Jan. 13, 1885, writes thus:

My crop of honey has been very satisfactory the past season. I have 125 colonies of bees all wintering in fine condition. The winter has been very favorable so far, not more than two weeks at a time that the bees did not have a good chance to fly.

☞ I. Muggrage, Lower Salem, ☌ O., on Jan. 13, 1885, writes:

In 1882 my neighbor, Mr. C. Haas, gave me a three-frame nucleus of bees. In 1883 I increased them to 5 colonies by natural swarming, and in 1884, I increased them to 10 colonies, and took 250 pounds of honey. Considering the season, I am satisfied with the result.

☞ W. M. Chapel, Kingston, ⊙ Wis., on Jan. 12, 1885, asks the following questions:

I wish to ask why the standard Langstroth hive is made so much longer one way than the other (18⅝x14)? Why not make them square? Do they not contain more than 2,000 cubic inches? Such long frames seem unwieldy and unhandy. Are long frames any better for the brood than short ones, and more of them?

[After determining upon the best size and shape of frame for all purposes, Mr. Langstroth calculated the number of frames necessary to give 2,000 cubic inches inside the hive—and that determined the shape. Long frames are no better for breeding purposes than short ones—but many good bee-keepers think they are as well.—Ed.]

☞ Wm. H. Graves, Duncan, +○ Ills., on Jan. 7, 1885, reports as follows:

The past season has been a very poor one. I had 40 colonies in the spring, increased them to 55, and doubled them back to 51 at the beginning of winter. They are all well supplied with stores on the summer stands. I took about 1,000 pounds of comb honey in sections, and 1,000 pounds of extracted. I find a more ready sale for the comb than for the extracted honey. The most of the comb honey sold at 15 cents per pound, and extracted at 10 cents per pound. I have about 700 pounds of honey on hand.

☞ M. K. Wing, Findley's Lake, ♀ N. Y., on Jan. 9, 1885, writes thus about honey-dew:

Some bee-keepers advise the feeding of honey-dew to bees in the spring, to stimulate breeding. I say do not feed it to them at any time. One might as well expect a human being to do well on a diet of castor oil, as to expect bees to do well on honey-dew. I have been experimenting with honey-dew in wintering bees and feeding them in the spring, for 15 years, and I know that it is the chief cause of bee-diarrhea. I have kept bees for over 25 years.

☞ John Yoder, Springfield, Ont., on Jan. 10, 1885, writes as follows:

I have 83 colonies of bees in the cellar, and 9 in a clamp, the latter being packed in close with chaff. They have not had a fly since put in on Nov. 19, 1884 Those in the cellar are, to all appearance, doing well, but are dying a great deal on the cellar floor. I sweep them all up clean every few days, and to-day I took up three heaping quarts of them that died during eleven days. I have nothing but the cloth over them this winter, and the thermometer indicates from 40° to 45° above zero. Last winter I had a heavy cushion over each hive, and I think that they were too warm. On Sept. 12, 1884, I fed all my bees that needed it, and I was somewhat surprise on Nov. 19, when I put them away, to find that they had lost from 8 to 10 pounds in weight. Extracted honey, here, now sells at 12½ cents per pound. I sold the most of my last summer's crop at 11 cents per pound, and the comb honey at 16 to 18 cents per pound. There are many bee-keepers who are afraid of over-production, and indeed it seems like it, for so many are going into it; but the home market is not yet half developed, that is, one-half of the people do not eat honey. They seem to think it a luxury, and too dear even at 11 cents per pound. I am well pleased with the changes in the Bee Journal, for the new year. Answers to queries is just the thing; it will give different men's views from different climates. I am too young a bee-keeper to say much about the pollen theory, but I think that when bees are too warm they breed, then they eat pollen, in confinement cannot fly, and then soil the hive and die of disease. At least that is what mine did a year ago. They were piled four deep on the cellar floor, the bottom tier being diseased, and the top was as clean as when they were put in.

Convention Notices.

☞ The Bee-Keepers' Association for the Province of Quebec will meet at 1511 Notre Dame Street, Montreal, on Tuesday, Jan. 27, 1885.

S. B. La Montague, Sec.

☞ The second annual meeting of the Seneca County Bee-Keepers' Association will be held in the Engine House at Ovid, N. Y., on Feb. 11, 1885, at 9 a. m. All interested are cordially invited to attend, and make the meeting as profitable as possible. All implements of the apiary sent to the Secretary will be exhibited at the meeting, and will be disposed of or returned as the owner directs.

Ira Wilson, Sec.

☞ The Lake Shore Bee-Keepers' Association will meet at the apiary of Mr. U. E. Dodge, in Fredonia, N. Y., on Jan. 24, 1885, at 1 p. m. All bee-keepers, and those interested in apiculture, are invited to be present.

John Benedict, Sec. pro tem.

☞ The Cortland Union Bee-Keepers' Association will hold its next meeting at Cortland, N. Y., on Jan. 27, 1885.

M. G. Darby, Sec.

☞ The Northeastern Michigan Bee-Keepers' Association will hold its third annual convention on Feb. 4, 1885, at Vassar, Mich. W. Z. Hutchinson, Sec.

☞ The regular annual meeting of the Indiana State Bee-Keepers' Association will be held on Thursday and Friday, Jan. 22 and 23, 1885. The meetings will be conducted in the rooms of the State Board of Agriculture, on the corner of Tennessee and Market Streets, in Indianapolis, Ind. It is proposed to make this the most important and interesting meeting of bee-keepers ever held in the State.

Frank L. Douoherty, *Sec.*

☞ The Willamette Valley Bee-Keepers' Association will hold its second meeting at La Fayette, Oregon, on the third Tuesday in June, 1885. All who are interested are invited to attend. E. J. Hadley, *Sec.*

☞ The Blue Grass Convention will be held at the Court House, Cynthiana, Ky., on Monday, Jan. 19, 1885. All are invited to attend.

A. M. Cox, *Sec.*

☞ The sixteenth annual convention of the Northeastern Bee-Keepers' Association will be held in the City Hall at Syracuse, N. Y., on the 21, 22 and 23 of January, 1885. The executive committee are determined to maintain the high standing and enviable reputation which the Association has justly gained in the past, and at the coming convention they propose to outdo all former efforts. The meeting will surely be the largest and most interesting ever held in America. No bee-keeper can afford to stay at home. All are invited. All implements of the apiary sent to the Secretary, will be properly arrayed to compare favorably with others on exhibition, and will be disposed of or returned, as the owner directs. Reduced rates for board at hotels.

Geo. W. House, *Sec.*
L. C. Root, *Pres.*

☞ It is proposed to hold an International Bee-Keepers' Congress on the World's Exposition Grounds at New Orleans, La., Feb. 24, 25 and 26, 1885. An interesting programme of subjects of great importance to every bee-keeper in America will be presented and discussed. The disposition of our honey product, with a view to secure better prices will be fully considered. At the same time there will be an Exhibit of Bees and Apiarian Supplies. At the time now selected, the Exposition will be at its best, and excursion rates low. The bee-keepers of our country should lay aside business for a week or two, and make every exertion to attend this Convention. Come prepared with facts, statistics and ideas arranged, to take part in its deliberations.

Dr. J. P. H. Brown, Augusta, Ga.
Dr. N. P. Allen, Smith's Grove, Ky.
W. Williamson, Lexington, Ky.
Dr. O. M. Blanton. Greenville, Miss.
P. L. Viallon, Bayou Goula, La.
Judge W. H. Andrews, McKinney, Tex.
W. S. Hart, New Smyrna, Florida.
S. C. Boylston, Charleston, S. C.
H. C. Austin, Austin's Springs, Tenn.
R. C. Taylor, Wilmington, N. C.
J. W. Porter, Charlottesville, Va.
S. Valentine, Hagerstown, Md.

☞ The eighth annual meeting of the Northwestern Illinois and Southwestern Wisconsin Bee-Keepers' Association will be held in Temperance Hall, at Freeport, Ill., on Jan. 20 and 21, 1885. Jonathan Stewart, *Sec.*

☞ The Mahoning Valley Bee-Keepers' Association will hold its next meeting in the Town Hall at Newton Falls, O., on the third Thursday in January, 1885. The meeting will be instructive as well as interesting. E. W. Turner, *Sec.*
L. Carson, *Pres.*

☞ A bee-keepers' society was organized at Rock Elm Centre, Wis., on Dec. 31, 1884, called the "Linwood Bee-Keepers' Association," and will meet semi-annually on the first Monday in May and September. The next meeting will be held at Rock Elm Centre, Pierce County, Wis.

B. Thomson, Sec.

☞ Do not forget to send for a Binder in which to file your Journal and thus have the full benefit of it during the whole year.

Special Notices.

The Bee Journal for 1885.

To increase the number of readers of the Bee Journal, we believe, will aid progressive bee-culture and help to elevate the pursuit. We, therefore, offer the following

CASH PREMIUMS FOR CLUBS.

$10.00 for the largest club received at this office before Feb. 1, 1885 (either of the Weekly, Monthly, or both); one Weekly counts same as 4 Monthlies. $5.00 for the second largest; $4.00 for the third; $3.00 for the fourth; $2.00 for the fifth; and $1.00 for the sixth largest club.

Subscriptions for two or more years for one person, will count the same as each year for a different person.

◆

Apiary Register—New Edition.

All who intend to be systematic in their work in the apiary, should get a copy and commence to use it. The prices will hereafter be as follows:

For 50 colonies (120 pages)......	$1 00
" 100 colonies (220 pages)......	1 25
" 200 colonies (420 pages)......	1 50

The larger ones can be used for a few colonies, give room for an increase of numbers, and still keep the record all together in one book, and are therefore the most desirable ones.

◆

☞ For two subscribers for the Weekly Bee Journal (or 8 for the Monthly) for one year, we will present a Pocket Dictionary, and send it by mail postpaid.

◆

☞ We will send sample copies free to all who wish them, or desire to get up Clubs. Now is the time to work for the Cash premiums we offer. A large club for the Monthly can be gotten up in almost every locality.

◆

☞ For $2.75 we will supply the Weekly Bee Journal one year, and Dzierzon's Rational Bee-Keeping, in paper covers; or the Monthly Bee Journal and the book for $1.25. Or, bound in cloth, with Weekly, $3.00; with the Monthly, $1.50.

◆

☞ We want one number of each of the following: Aug. 1866, Feb. 1867, July 1870 and Oct. 1872. Any one having them to spare will please send us a Postal card. We will take the first that offer them, and pay 25 cents each for the 4 numbers.

CLUBBING LIST.

We will supply the **American Bee Journal** one year, and any of the following Books, at the prices quoted in the last column of figures. The first column gives the regular price of both. All postage prepaid.

	Price of both.	*Club*
The Weekly Bee Journal,..................	$2 00..	
and Cook's Manual, latest edition	3 25..	3 00
Bees and Honey (T.G.Newman) cloth	3 00..	2 75
Bees and Honey (paper covers)......	2 75..	2 50
Binder for Weekly Bee Journal.....	2 75..	2 50
Apiary Register for 100 colonies	3 25..	3 00
Dzierzon's New Bee Book (cloth)....	4 00..	3 00
Dzierzon's New Book (paper covers)	3 50..	2 75
Quinby's New Bee-Keeping.	3 50..	3 25
Langstroth's Standard Work.........	4 00..	3 75
Root's A B C of Bee Culture (cloth)	3 25..	3 10
Alley's Queen Rearing................	3 00..	2 75
The Weekly Bee Journal one year		
and Gleanings in Bee-Culture (A.I.Root)	3 00..	2 75
Bee-Keepers' Magazine (A.J.King).	3 00..	2 75
Bee-Keepers' Guide (A.G.Hill)......	2 50..	2 35
Kansas Bee-Keeper.................	3 00..	2 75
The Apiculturist, (Silas M. Locke)..	3 00..	2 90
The 6 above-named papers..............	6 50..	6 00

THOMAS G. NEWMAN,
925 West Madison Street., **Chicago, Ill.**

◆

Create a Local Honey Market.

Now is the time to create Honey Markets in every village, town and city. Wide-awake honey producers should get the Leaflets "Why eat Honey" (only 50 cents per 100), or else the pamphlets on "Honey as Food and Medicine," and scatter them plentifully all over the territory they can supply with honey, and the result will be a *demand* that will readily take all of their crops at remunerative prices. The prices for "Honey as Food and Medicine" are as follows:

Single copy **5** cts.; per doz., **40** cts.; per hundred, **$2.50**. **500** will be sent postpaid for **$10.00**; or **1000** for **$15.00**. On orders of **100** or more, we will print, if desired, on the cover-page, "Presented by," etc., (giving the name and address of the bee-keeper who scatters them). This alone will pay him for all his trouble and expense—enabling him to dispose of his honey at home, at a good profit.

☞ To give away a copy of "Honey as Food and Medicine" *to every one who buys a package of honey*, will sell almost any quantity of it.

◆

☞ To Canadian subscribers let us say that we have made arrangements so that we can supply the *Farmer's Advocate* of London, Ont., and the Monthly Bee Journal for one year at $1.25 for the two.

◆

☞ The long winter evenings will be well occupied by reading bee literature. When renewing your subscription, it will be well to get some good bee-books. See our list of books on the second page and select what you need.

☞ Our rates for two or more copies of the book, "Bees and Honey," may be found on the Book List on the second page of this paper. Also wholesale rates on all books where they are purchased "to sell again."

SOMETHING NEW!

THE **Best-Made**, handiest and cheapest combination,

Summer and Winter Hive

in the market. Send for Catalogue of general **APIARIAN SUPPLIES**. The best white poplar **SECTIONS** and pure yellow beeswax. **COMB FOUNDATION** a specialty.

Full Colonies, Nuclei Colonies and

QUEENS for SALE.

Be sure to send for 25th Annual Price List, before making your purchases for 1885.
Address **WM. W. CARY, Jr.**
COLERAINE, MASS.
3Dtf Successor to Wm. W. Cary & Son.

NOW READY! NOW READY!!

500 **U. S. Standard Honey Extractors**, and **1,000 Toledo Smokers** both of which took the First Premium at the Ohio, Indiana & Michigan Tri-State Fair, in Sept., 1884. We also manufacture and deal in a full line of **Apiarian Supplies**. Send address for Circular. Factory, 36 Monroe St.
E. T. LEWIS & CO.
2Btf TOLEDO, OHIO.

LANG'S LIVE SEEDS,

Northern-Grown, Carefully Tested.

Flower, Vegetable, Field and Tree Seeds.

50 page Illustrated Catalogue, **free.**

$5,000 **WORTH OF PREMIUMS** to be given to those who get up clubs for my **Live Seeds.** Gold and Silver Watches, Guns, Household Articles, Farming Implements, etc., can be easily earned canvassing for my seeds.

$150 **WORTH OF SEEDS** to be given to those who get in the first orders for 1885. Hurry up your orders and try and get your seeds free of charge. See page 27 of Catalogue.

HUNDREDS **OF DOLLARS** to be given as Premiums for the largest crops. See Premium List.

LANG'S **HAND WEEDER** is the most practical, common-sense weeding implement ever offered, and it is receiving the praises of Seedsmen, Gardeners, Florists, Farmers and in fact everybody. Thousands are being sold in every part of the U. S. Send for one; only **50 cents prepaid. AGENTS WANTED.**
3AB1t **F. N. LANG, Baraboo, Wis.**

$1 **WORTH OF TESTED** SEEDS FREE.

To any person sending us **50 cents** for one year's subscription to the **Rural Home**, and 7 cts. to help pay postage, packing, etc., we will send the **Ten Packets** of choice Vegetable seeds named below **free.** We make this offer to induce you to become a regular subscriber to the **Rural Home**, and to test the value of our seeds (specially grown for our use). Following are the seeds we offer: *Early Oxheart Cabbage, Imp. Blood Turnip Beet, Livingston's Perfection Tomato, New Italian Onion: Early White Turnip, Early Montana Sugar Corn, New Perpetual Lettuce, Premium Green Pea, Valparaiso Squash, new, Imp. Large Sugar Parsnip.* We want every farmer and gardner in the U. S. to give these seeds an honest and fair trial. They are warranted to be of the very best quality, true to name, fresh and pure and of the growth of **1884**. Full directions for cultivating on every package. Address
THE RURAL HOME.
3D4t **Philadelphia, Pa.**

Job Printing. I Will exchange Job Printing, such as Price Lists, Circulars, Labels, Cards, etc., for Apiarian Supplies, especially Honey and Wax Extractors, Foundation Mill and f. p. Circ. Saw—New or 2nd. hand. Job Printing at low rates—cash or exchange.
A. O. CRAWFORD.
3A1t S. WEYMOUTH, MASS.

Young Men!—Read This.

THE VOLTAIC BELT CO., of Marshall, Mich., offer to send their celebrated ELECTRO-VOLTAIC BELT and other ELECTRIC APPLIANCES on trial for thirty days, to men (young or old) afflicted with nervous debility, loss of vitality and manhood, and all kindred troubles. Also for rheumatism, neuralgia, paralysis, and many other diseases. Complete restoration to health, vigor and manhood guaranteed. No risk is incurred, as thirty days trial is allowed. Write them at once for illustrated pamphlet free. 6D1y

Premium for Club of 10 Subscribers.

The book for every farmer is the one entitled "Affleck's Farmer's and Planter's Record and Account Book," in which there is the most systematic, complete and convenient arrangement of headings for every Farm Account and memoranda of all important events which may occur in connection with his business. Every progressive farmer certainly desires to make a success of his occupation, and should adopt every possible means of bringing about that result. He, then, should have a correct knowledge of his entire business, which he can have only by keeping a correct account of every crop produced on his farm, the cost of production of all his live stock and an itemized account of all his expenses. Then at the close of the year, when he takes off his balance sheet, which is admirably arranged in the book above referred to, he will be able to see at a glance whether his farm does or does not pay.

This valuable book contains 166 pages, is nicely printed on writing paper, ruled and bound, and the price is $3.00. It can be sent by mail for 24 cents extra.

We can supply these books at the publisher's price, or will make a **present** of one copy for every club of TEN subscribers to the Weekly BEE JOURNAL for one year, with $20. Four subscribers to the Monthly will count the same as one for the Weekly.

Now is the time to get up Clubs. Who will work for a copy of this valuable book.

DR. FOOTE'S
HAND-BOOK OF HEALTH,
HINTS AND READY RECIPES,

is the title of a very valuable book that gives a great amount of information, of the Utmost Importance to Everybody, concerning their daily habits of Eating, Drinking, Dressing, Sleeping, Bathing, Working, etc.

It Costs only TWENTY-FIVE CENTS, and contains **28** pages, **and is sent by mail, post-paid, on receipt of price.** This is just the Book that every family should have.

IT TELLS ABOUT

What to Eat,
How to Eat it,
Things to Do,
Things to Avoid,
Perils of Summer,
How to Breathe,
Overheating Houses,
Ventilation,
Influence of Plants,
Occupation for Invalids,
Superfluous Hair,
Restoring the Drowned,
Preventing Near-Sightedness,
Parasites of the Skin,
Bathing—Best way,
Lungs & Lung Diseases,
How to Avoid them,
Clothing—what to Wear
How much to Wear,
Contagious Diseases,
How to Avoid them,
Exercise,
Care of Teeth,
After-Dinner Naps,
Headache, cause &
Malarial Affections,
Croup—to Prevent.

IT TELLS HOW TO CURE

Black Eyes, Boils, Burns, Chilblains, Cold Feet, Corns, Coughs, Cholera, Diarrhœa, Diphtheria, Dysentery, Dandruff, Dyspepsia, Ear Ache, Felons Fetid Feet, Freckles, Headache, Hiccough, Hives Hoarseness, Itching, Inflamed Breasts, Ivy Poisoning, Moles, Pimples, Piles, Rheumatism, Ringworm, Snoring, Stammering, Sore Eyes, Sore Mouth, Sore Nipples, Sore Throat, Sun-stroke, Stings and Insect Bites, Sweating Feet, Toothache, Ulcers, Warts, Whooping Cough, Worms in Children.

It will Save Doctor Bills!

Price only **25** Cents. Sent by Mail, post-paid,

THOMAS G. NEWMAN,
925 West Madison Street, CHICAGO, ILL.

The WORLD'S EXPOSITION
NEW ORLEANS

Opens Tuesday, December 16, 1884.

In the presence of the Presidents of the American Republics, viz: Arthur, of the United States; Diaz of Mexico; Barrios, of Guatemala; Bogran, of Honduras.

The Colossal Exhibit of all Time!

Sixteen (16) Immense Exhibition Buildings:

One—the largest building ever erected, another—the largest Conservatory in the World.

90 Acres of Space Under Cover!

Low Transportation Rates from all Points. Ample Accommodations at Reasonable Rates for all Visitors.

During the period of the Exposition, from December 16, 1884, to June 1, 1885 the temperature at New Orleans averages 65 Fahr. The lawn and shrubbery remain green, flowers bloom, fruits ripen, and all kinds of vegetables grow and mature.

Full information promptly furnished. Address,

E. A. BURKE, Director General,
New Orleans, La.

Bee-Hives and Supplies.

WE HAVE remodeled our machinery and can fill orders on short notice. If wanted, **Odd Sizes** made; send order now, before the rush comes. We have a large stock on hands. We give 4 per cent. discount till Jan. 15, and 3 per cent. discount till Feb. 1. Price List free.

B. J. MILLER & CO.
1D6t NAPPANEE, Elkhart Co., Ind.

FOR BEE-HIVES

And a general assortment of **Bee-Keepers' Supplies** send for circular to
51Dtf J. E. PRYOR, Dexter, Iowa.

BE SURE

To send a Postal Card for our Illustrated Catalogue of APIARIAN SUPPLIES before purchasing elsewhere. It contains Illustrations and descriptions of everything new and valuable needed in an apiary, at the lowest prices. Italian Queens and Bees. Parties intending to purchase Bees in lots of 10 colonies or more, are invited to correspond.

J. C. SAYLES,
1D15t 2B5t HARTFORD, WIS.

BEE-KEEPERS' GUIDE;

Or, MANUAL OF THE APIARY.

12,000 SOLD SINCE 1876.

13th Thousand Just Out!

10th Thousand Sold in Just Four Months!

3,000 Sold Since May, 1883.

More than 50 pages, and more than 50 fine illustrations were added in the 8th edition. The whole work has been thoroughly revised, and contains the very latest in respect to bee-keeping. It is certainly the fullest and most scientific work treating of bees in the World. Price, by mail, **$1 25.** Liberal discount to dealers and to clubs.

A. J. COOK, Author and Publisher,
1C1y Agricultural College, Mich.

ELECTROTYPES

Engravings used in the Bee Journal for sale at 25 cents per square inch—no single cut sold for less than 50c. **THOMAS G. NEWMAN,**
925 West Madison Street **Chicago, Ill.**

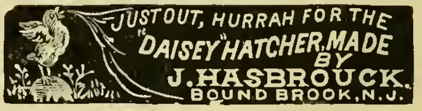
Our Club List.

Subscription price of each periodical named below.			Combination price with our paper. Both Periodicals for
1 00	Boston Globe	w	3 00
2 50	" Every Other Saturday, *Lit.*	s-m	4 10
1 50	" Our Little Ones, (*O. Optic*)	m	3 25
4 00	Chicago Current, *Literary*	w	5 20
1 50	" Drovers' Journal	w	3 40
1 50	" Farmers' Review	w	3 20
1 00	" Herald, *Independent*	w	2 85
1 00	" Inter-Ocean, *Republican*	w	3 00
2 50	" " "	s-w	4 40
2 50	" Religio-Phil. Jour., *Spirit.*	w	4 10
2 00	" Skandinaven, *Swedish*	w	3 85
3 00	" Staats-Zeitung, *German*	w	3 80
2 25	" Svenska Tribunen, *Swed*	w	4 00
2 50	" Standard, *Baptist*	w	4 35
1 25	" Times, *Democratic*	w	3 20
1 00	Cincinnati Times-Star, *Ind*	w	3 00
1 15	" Enquirer, *Democratic*	w	3 15
1 25	" Gazette, *Republican*	w	3 05
1 00	Detroit Free Press, *Family & Lit.*	w	3 00
1 00	Kansas City Journal, *Republican*	w	3 00
1 00	" Times, *Democratic*	w	3 00
1 50	Louisville Courier-Journal, *Dem.*	w	3 30
2 00	Milwaukee Peck's Sun, *Humor*	w	3 85
1 50	New York Am. Agriculturist	m	3 10
4 00	" Art Amateur	m	5 25
1 50	" Christian Herald, *Ills*	w	3 20
4 00	" Century, *Literary*	m	5 70
2 00	" Demorest, *Ladies*	m	3 70
1 75	" Golden Argosy, *Lit*	w	3 25
2 50	" Graphic, *Illustrated*	w	4 00
4 00	" Harpers' Weekly, *Illus*	w	5 40
2 50	" Leslie's Sunday Mag	m	4 20
5 00	" North Amer. Review	m	6 30
2 00	" Phrenological Journal	m	3 75
2 00	" Rural New Yorker	w	3 85
2 20	" Scientific American	w	4 95
1 00	" Times, *Ind. Republican*	w	3 00
1 25	" Tribune, *Republican*	w	3 10
1 00	" World, *Democratic*	w	3 00
2 00	Philadelphia Call, *Lit. & Humor*	w	4 00
2 00	" Arthur's Home Mag	m	3 50
2 00	" Godey's Lady's Book	m	3 70
3 00	" Hearthstone, *Fiction*	w	4 25
2 00	" Peterson's Magazine	m	3 60
2 00	" Practical Farmer	w	3 25
1 00	" Press, *Republican*	w	3 00
1 50	Washington National Tribune	w	3 00

THOMAS G. NEWMAN,
925 West Madison St., Chicago, Ills.

THE POULTRY RAISER, 69 Dearborn St., Chicago, Ill.

Only 25 cents per year, for 12 numbers of 16 pages each. $100.00 in gold free. Send 2c. stamp for sample copy. 2C3t



YES, WHY NOT?

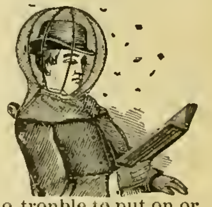
SEND me your address on a postal and receive a description of **My Improved Hook** for bottom-boards of bee-hives.

CHEAP! SIMPLE! EFFECTIVE!

Pronounced the **"best thing out."** Sample hook for a two-cent stamp. No room to say more. Write to

HOWARD U. ACKERMAN.
1ABtf NORTH INDIANAPOLIS, IND.

A NEW BEE-VEIL.



There are five cross bars united by a rivet through their center at the top. These bars are buttoned on to studs on the neck-band. The bars are of best light spring steel; the neck-band of best hard spring brass; the cover is of handsome light material. It is very easily put together, no trouble to put on or take off, and folds compactly in a paper box 6x7 inches by one inch deep. There would be no discomfort in wearing it either day or night, and the protection against Mosquitoes, Flies, Bees, Gnats, etc., is perfect. The weight of the entire Veil being only five ounces. Price, by Mail or Express, $1.00.

ALFRED H. NEWMAN,
923 West Madison Street, Chicago, Ill.

WEEKLY EDITION
OF THE
AMERICAN
ESTABLISHED IN 1861
OLDEST BEE PAPER IN AMERICA
BEE JOURNAL
PUBLISHED AT
925 WEST MADISON-STREET, CHICAGO, ILL.
Weekly, $2 a year; Monthly, 50 cents.

THOMAS G. NEWMAN,
EDITOR AND PROPRIETOR.

Vol. XXI. Chicago, Jan. 28, 1885. No. 4.

Keep a Book Account.

Working haphazard is a very questionable way of doing business, and you will find scarcely any successful person that does not keep a debtor and creditor account with his stock, for he knows that it is the only true way to tell how much has been made during the season or how much has been lost. A well-kept account will teach many valuable and profitable lessons, for it will show plainly just where certain gains were made, and how they may be increased; it will show where losses have been sustained, and will suggest a remedy for the same. After it is once commenced, it is very little trouble to keep a regular account, for a few minutes each evening will be all the time required to attend to it properly.

We think we are looking to the interest of every reader when we commend the use of the "Record & Account Book" noticed on another page. It is complete in every respect, and should be generally utilized. The price is $3.00; but we will club it and the Weekly BEE JOURNAL for a year for $4.00. If you have already sent us $2.00 for the Weekly BEE JOURNAL for a year, we will send the Book for another $2.00 making $4.00 in all. If you want it sent by mail, add 24 cents for postage.

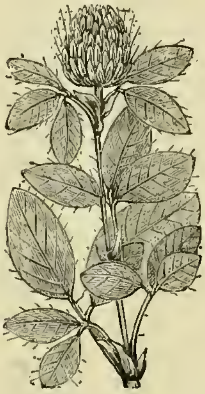
* * *

☞ For 5 or 6 weeks the weather has been extremely cold; the thermometer in Chicago ranging below zero nearly all the time; several times it indicated 30° below zero. The cold weather has not only been severe, but long continued, notwithstanding the prophets promised us a mild winter!

Cultivation of the Clovers.

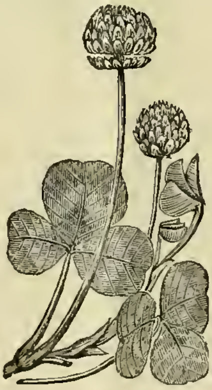
It will soon be time to be thinking of pasturage for the bees. Some will want to plant and in reply to inquiries we give below illustrations of the *Clovers*, and how to plant them, copied from *Landreth's Rural Register* for 1885, published by David Landreth & Sons, Seed Farmers, 21 & 23 South 6th St., Philadelphia, Pa., who have kindly furnished us with the illustrations.

We will enumerate other honey-producing plants, hereafter.



Red Clover—Trifolium pratense.

This is the most widely cultivated of all the pasturage plants, loosening the soil and admitting the air and drawing up and storing away near the surface the valuable principles scattered in the earth beneath. It is regarded as one of the best of vegetable fertilizers, as well as a cattle-food of highest merit. Sow, in the spring, 16 lbs. to the acre.



White Clover—Trifolium repens.

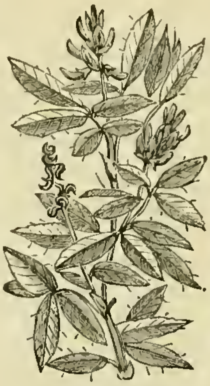
Not a heavy producer of hay, but invaluable in permanent pastures. Will grow on any soil, but luxuriates in damp locations and in damp seasons. Sow 12 lbs. to the acre.

Lucerne or Alfalfa—Medicago sativa.

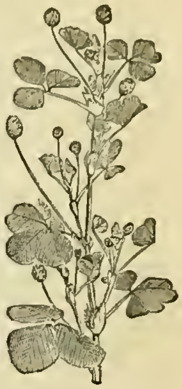
It resists the driest weather, and when every blade of grass droops for want of moisture, it holds up fresh and green as in genial spring. Sow 10 lbs. to the acre.

Trefoil—Medicago lupulina.

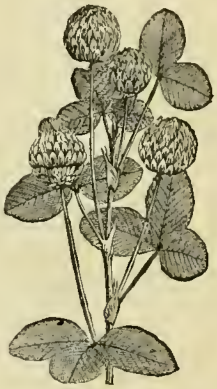
A fibrous-rooted biennial plant, and flowers from May to August. Sow 3 lbs. to the acre with sainfoin, or 6 lbs. if alone.



Lucerne.



Trefoil.



Alsike Clover—Trifolium repens.

Possibly a hybrid between the Red and White, possessing qualities common to both. The flowers are a distinct light pink, and afford fine pasturage for bees. Sow 12 lbs. per acre.

* * *

How it is, "Over There."

While we in the Northwest are "frozen up" by the chilling blast of the Manitoba breezes, it is refreshing to read items like the following, from the Chicago Daily *Times*. A correspondent telegraphs thus:

> "California is now enjoying spring weather. Acacia in full bloom attracts the bees; roses are plentiful; violets, mignonette and heliotrope are in early spring flower. About one-half of the rain expected in the wet season has fallen, and the farmers are contemplating speedy planting."

Upon opening one of our exchanges from California we find the following:

> The season just past has been remarkable in every respect. The early and later rains gave us such a floral output as has never been known since the honey-bee was first brought to this part of California, in 1855.

Queries & Replies.

The Use of Drone-Traps.

Query No. 5.—I have 5 hybrid colonies of bees, 3 black, and 2 Italian colonies. If they all winter well, would it be a good plan to give the Italians a card of drone comb, and put drone traps on the hybrids and blacks, when the young Italian queens are mating? Is there a better way?—Utica, Ont.

Prof. A. J. Cook remarks: "There is no better way, unless by giving only worker-comb or cutting off the heads of the drones. You must control or kill all drones from undesirable colonies."

Dr. J. P. H. Brown replies as follows: "Yes, it is a good plan; but in connection cut out all drone-comb from the impure colonies and put in worker-comb, and examine them every two weeks and shave off the cap of every drone-cell that can be seen."

W. Z. Hutchinson responds thus: "The plan is a good one, if there are no blacks nor hybrids within two or three miles. An excellent way would be to send South for Italian queens and Italianize the blacks and hybrids before drones can be reared."

Messrs. Dadant & Son answer: "There is a better way than to use a drone-trap, which is a nuisance at the best. Take all the drone-comb out of your black and hybrid colonies early in the spring, and replace it with worker-comb, or with worker foundation if comb cannot be had, and you will rear 50 workers to every square inch, in place of 32 drones, with no more expense; and these workers will store honey for you in place of eating it."

James Heddon says: "If I were in your place, and producing comb honey, I should not care to breed my Italian queens to purity. Supposing that you do, have you too much drone-comb in all the colonies, or in such shape that you cannot place it all with the Italians? If so, I would put all I could with them, and then beginning early, keep the unwanted drones' heads cut off as fast as they are sealed. You can use the Jones' entrance drone-excluders, and after 4 p. m. remove it and let the drones out, and while out, replace it and keep out the most of them for evening destruction."

Dr. G. L Tinker answers as follows: "It would be 'a good plan' unless more hybrid colonies are wanted, and there is no 'better way' than the one suggested, if the colonies sought to be bred from are isolated one or two miles from all others."

G. W. Demaree replies: "I have always succeeded in getting purely mated Italian queens by encouraging some Italian colonies to rear drones early in the spring—give them some drone-cells in the centre of the brood-nest, not a whole card—and clip the heads of the drones in the black colonies; this is cheaply done before the surplus cases are adjusted. Later in the season I prefer to use the perforated-zinc to control the drones."

Dr. C. C. Miller answers as follows: "Instead of using drone-traps, I had rather cut out all drone-comb (except in the Italian colonies) and fill the holes in the combs with worker-comb. Or, with so few colonies, slice the heads off of the sealed drone-brood once a week. If, however, blacks or hybrids are in neighboring apiaries, the most that can be done is to encourage the production of large numbers of drones in the Italian colonies."

J. E. Pond, Jr. says: "To the first part of this query I would say, yes; rear as many Italian drones as possible, and at as early a day as possible; also prevent rearing of drones in the hybrid and black colonies. By so doing, if there are no hybrids or blacks other than you own, within four or five miles of your apiary, the chances are largely in favor of your Italian queens' mating purely."

G. M. Doolittle responds as follows: "Get Italian queens in all colonies as soon as possible, after which all young queens will meet Italian drones without any use for the drone-trap. These first Italian queens mated with hybrid or black drones will be as good honey-producers as pure Italians, as a first cross always gives vigor."

◆

Frost and the Bee-Moth Larvæ.

Query No. 6.—Will frost destroy the eggs and larvæ of the bee-moth? If so, what temperature will it take to do it?—Lyn, Ont.

Prof. A. J. Cook responds thus: "The bee-moth in its immature state survives very severe frosts; how severe, I cannot tell."

G. M. Doolittle says: "Zero, or lower, will generally freeze combs, so that all eggs of the bee-moth are rendered harmless."

J. E. Pond, Jr. replies: "I do not know whether frost will destroy the eggs of the bee-moth or not; but I have had worms hatch out in the spring, after having been exposed all winter, with the temperature as low as 18° below zero. The eggs do not hatch though except when very warm; 70° above zero, at least in my experience."

Messrs. Dadant & Son say: "Frost will undoubtedly destroy the eggs and larvæ of the moth, but we have never tried to ascertain the degree required. We think that if they are exposed to temperature below 25°, it will destroy them."

James Heddon says: Destruction of the eggs and larvæ of the bee-moth begin at about 16° above zero, Fahr. After my combs have been fairly exposed to a temperature of 5° to 10° above zero, I always feel safe about them. In late years we have hardly had any trouble from moths at all, whether combs are exposed to a low temperature or not. Care during summer is the preventive."

G. W. Demaree thinks that "frost will destroy the eggs of the bee-moth; but not the larvæ, after they weave about themselves the tough silken shroud so wonderfully adapted to their preservation."

Dr. J. P. H. Brown says: "It is very doubtful; depend more upon the frames of surplus."

Dr. G. L. Tinker says: "The larvæ of the bee-moth is not killed by frost; at least not in protected situations where the temperature may fall as low as zero. I cannot say as to the eggs."

◆

California Exhibit at New Orleans.

The *Californian* gives the following particulars concerning the California Exhibit of honey and honey-plants at the World's Fair at New Orleans, La.:

The opportunity to place California honey where it can be seen and sampled by a vast multitude of people, has been improved by some of the bee-masters of Southern California, and samples from Los Angeles, San Diego and Ventura counties have been taken by the Southern Pacific Railroad to the Exposition.

Mr. J. E. Pleasants has been selected to represent the Los Angeles County Bee-Keepers' Association at New Orleans, and he started to that city on Dec. 6, taking with him a model extracting-house, 600 pounds of honey, a large quantity of wax, and a fine collection of thrifty-growing, honey-producing shrubs and plants indigenous to Southern California. They were in pots, and will no doubt grow and bloom in the climate of New Orleans almost as well as in Southern California. Visitors to the Exposition can then form some idea as to the source from which the great yields of honey are obtained in this locality.

The good taste of Mr. Pleasants in putting articles in place to show to the best advantage has often been evidenced at our local Fairs, notably at the last Fair of the Sixth District Agricultural Society, held in this city last October, where Mr. Pleasants took the premium for the largest and best display of honey.

☞ At the World's Exposition, let it be understood, says Dr. Brown, that "all exhibits of colonies of bees and bee manipulations will *only be during the week of the Convention.* Supplies can be exhibited any time during the Exposition."

◆

☞ From an investment of $2.00, every subscriber to the Weekly Bee Journal for 1885, will receive fifty-two dividends.

◆

☞ Do not forget to send for a Binder in which to file your Journal and thus have the full benefit of it during the whole year.

CORRESPONDENCE

For the American Bee Journal.

Are Patents Necessary?

JAMES HEDDON.

I have no interest in patents; neither are any of my inventions patented. Why not? Because I do not wish to prohibit the manufacture and use of them by any honey-producers who may think them worthy, and wish to make them for their own use.

I do wish that manufacturing dealers would respect the natural rights of any and all inventors, by not rushing into the manufacture and sale of their inventions without first getting the inventor's consent so to do. I claim that every inventor has a natural right to the exclusive manufacture of his own inventions—the product of his own labor. I believe this principle is recognized by all civilized nations, and these nations make patent laws to force those to respect such rights, whose moral status is thus low that they will not respect them unless forced to.

On page 620 of *Gleanings* for 1884, the editor says: "I am very glad indeed to note the disposition among bee-keepers of forbearing to copy the works of each other, patent or no patent. The supply dealer who would unhesitatingly copy something well known to be the property of another, without getting the privilege of doing so, by purchase or otherwise, would very likely lose more than he made, so strong is the disposition of our people to give honor to whom honor is due." I like this just sentiment, and the general idea of a bee-keeper honoring the inventor's right, better than the patent system.

A patent-right contemplates not only reward of merit, but inducement to benefit mankind by invention. The same is true of this proposed bee-keepers' honorary, respect-for-inventors'-rights, system. By the latter, expense of patenting is avoided, enabling the inventor to give the public all individual rights if he wishes. All expense of litigation is avoided. We can force a stealer of others' mental labor to stop, by the quiet, inexpensive system of neglect. Public sentiment now prevents more wrong doing (nearly all small acts) than law, and without a particle of cost. Cannot this matter of inventor's natural rights be put into this latter system of government? Let bee-keepers set the example. Let the prior inventor remember that such priority is not enough for a claim of right. We have no money or time to spend settling complicated claims of secreted priority. The first man who benefits us all by publishing, thus giving to us the advantages of his invention, let us hold entitled to all the honorary and financial benefits accruing from such discovery, and the exclusive right of the manufacture of the same for a reasonable length of time.

Many inventions prove to be worthless. Finally the inventor begins to suspect this truth; the cost of patenting is lost to him, unless he can find another mistaken man to sell out to, and this is often done by moral cowards who fear financial loss more than moral degradation. The moral-right system tempts to no such immorality. It brings no unjust expensive lawsuits for infringements by innocent parties, who, many times, have been deceived and induced to so infringe by the very ones who expected to prosecute for that infringement.

Another point is, that no man has as much pride in the excellence of the construction of an article as does the inventor—he who has a pride and interest in its introduction. It is not he, but the imitator who is ignorant and careless of the proper bearing, adjustment and construction of the new article. His only aim is profit; to-day's profit, regardless of the profits of the future. He cuts the price 20 per cent., and the quality 40 per cent. If this honorary system of protection is sustained, then I am in favor of such system, vs. the patent-law. If not; if the morality of "our people" is so low that the expensive, and in many other ways bad patent-law is the only thing we can rely upon to protect a man's natural rights—then let us have that, and depend upon it.

I have every reason to believe that there are now several bee-keepers in our land who have valuable newly devised fixtures and methods, but they keep them in secret, because they see so little disposition among bee-keepers to recognize their natural right to their inventions, or even to "give honor to whom honor is due;" but a little something to be gained in monopolizing their use. Let us now and here determine to "give honor to whom honor is due," to protect in act and speech the natural rights of bee-keepers and others, and to increase the quality and quantity of the future honey crop all we can by aiding those already in the business to obtain better and larger yields, but *never* by inducing those of other callings to enter our already "over-done" business.

Dowagiac, ♀ Mich.

For the American Bee Journal.

Pollen, First Cause of Winter Loss.

A. J. NORRIS.

I have read the articles on the effects of brood-rearing and pollen, and I think that they are of much importance to owners of large apiaries; yet I have been undecided in regard to the cause of the losses of winter and early spring, but Mr. Doolittle's article on page 5, now puts me on the side of the pollen theory. Mr. Doolittle, in the beginning of his article, says: "I have claimed, for years, that pollen cannot be the prime cause, etc.," but he seems to bring in pollen as a secondary cause; but I think that he brings out the fact very plainly, that pollen is the first cause.

We all know, when bees have frequent flights, that pollen can do no harm, only to stimulate brood-rearing out of season; but here in the North, bees are confined from four to ten weeks, and will rear brood when pollen is present, and they will suffer more or less. Now, why not remove this cause of brood-rearing (prime cause of spring dwindling and death)? But there is one thing of which I do not feel assured, *i. e.*, if the bees are robbed of the necessaries with which to rear their young, will the old bees live long enough in the spring to build up strong, especially when they are cut short by drouth in the fall? Will the life of the old bees be prolonged by the absence of pollen and the required labor of rearing young?

In the fall of 1881, I fed one colony of Italians on sugar syrup that was short of both pollen and honey; they wintered with scarcely any loss. Again, in the fall of 1883, I transferred several colonies from American hives to Langstroth hives, and I gave them empty combs containing considerable pollen, and fed them sugar syrup. They dwindled badly, and some were entirely lost. I agree with both Mr. Doolittle and Mr. Heddon that pollen is the cause of bee-diarrhea and spring dwindling. Mr. Doolittle gives it as a secondary cause, but I think that he very clearly proves it to be the first or prime cause.

I have 316 colonies in winter quarters. With me the past season was a fair one for honey, and I think that the prospect for the coming season is good. Our principal crop is white clover.

Cedar Falls, ⊙ Iowa.

For the American Bee Journal.

Hibernation of Bees.

W. F. CLARKE.

Mr. Heddon has again discussed the hibernation theory. At the start he says: "I fail to see anything in it yet." This is not surprising, because his vision is obscured by the pollen theory. In his reference to bees that have their *habitat* in the woods, there is nothing new, except the dogmatism with which he asserts that "no one can admit that bees *generally* do well in trees during the winter, and yet tell the truth." There is no use in attempting to meet a statement like that with argument; yet it remains a stubborn fact that most people do make the admission in question, and so prove themselves in his estimation —what?

Mr. Heddon admits that it does seem as though he ought to get clear on the subject of hibernation "with so clear a writer to expound and explain." I thought I made it "clear" that we were to "fix" the outside protection of the bees, give them a supply of pure air without draft, and leave them to "fix" the inside temperature, which I claimed they would do, if the hive were not too large; but it seems I did not. However, I really do not know how to improve upon it. But if I cannot do this, I think I can show him that in the case of his bees which were so quiet and consumed so little, he accidentally hit upon the conditions that enabled them to hibernate. He says, he “fixed the temperature within their hives, and not they?” Is not this a big mistake? He fixed the cellar protection, and the outer air supply—no more. These happened to be just right in that case, and the bees did the rest. They were so “fixed” exteriorly that they could generate the amount of heat requisite for hibernation. Hence, they wintered perfectly. If he could do that every time, the winter problem would be solved, pollen or no pollen. Is not this what we are all after, to find out how Mr. Heddon wintered those bees in such repose and content that they took on the state of quiescence, and only consumed two or three pounds of honey? What I wonder at is that with such a case full in recollection, he should ever have started after pollen as the cause of winter difficulty. If he will give me the unfailing recipe for wintering bees as he wintered those colonies, I will end the quest, seek no farther, and let him call that method of wintering by what name he likes—“perfect quietude,” “semi-hibernation,” or even “total abstinence from pollen.”

Mr. Heddon must put me down among the doubters as to bees wintering well in “the most abominable impure atmosphere,” and having the diarrhea “radically, with the best of ventilation.” I do not for a moment question the sincerity with which he makes these statements, but I must think they betray a species of hallucination from which the strongest intellects are not always wholly free.

The conviction that taking bees out of cellars or special repositories into the open air causes spring dwindling, is not “based on the principle of good care making the bee tender,” but on the principle that the change is too sudden from a protected to an exposed condition. Putting an “outer box” around an “out-door hibernating colony” is a different affair altogether. There is no sudden change in this case, because the outer box is kept in place until settled warm weather. “Let it be recorded” that I call “spring dwindling” the result of exposure to a degree of cold that chills the bees, causes them to devour more food than they can assimilate, and gives them the diarrhea. Mr. Heddon says, “Spring dwindling is bee-diarrhea in disguise.” I see no disguise about it.

I do not dispute what Mr. Corneil says, and Mr. Heddon so eagerly endorses, in regard to carbonic-acid gas mixing with other and lighter gases and diffusing itself through a hive. But this only takes place when the air is confined. With the vertical air-shafts for which I contend, there is a constant circulation, and the carbonic-acid gas descends by its own density before there is time for the combination and diffusion to take place.

Whether hibernation, or as Mr. Heddon prefers to call it (being only as yet half-won over to my side) semi-hibernation, is “an effect of bee-diarrhea preventives,” or is “the prevention itself” as I maintain, time will tell. Of course Mr. Heddon, still clinging to the pollen theory, can only reconcile the state of quietude with that theory in the way he does; but while going the length of admitting the condition to be desirable, and induced by “bee-diarrhea preventives,” it is rather inconsistent for him to pronounce my views “the most absurb claims which have yet been offered as the cause of our winter losses.” Whether the hibernation or the pollen theory will carry off the palm of superlative absurdity remains to be seen. For myself, I calmly await the impending award.

Speedside, Ont.

For the American Bee Journal.

Does it Pay to Use Comb Foundation.

HENRY BATES, (120—160).

I cannot concur with the ideas advanced in the articles on comb foundation by Messrs. Hutchinson and Doolittle, in the BEE JOURNAL for 1884. In Mr. Hutchinson's case, the fault is not in the foundation or empty combs, but in the management. I think that he should have put a frame of brood and four or five sheets of foundation (or so many empty combs) in the hive, with two or three brood-frames filled with sections, the bees put on the unfinished honey-boxes from the old hive or new ones, as the case may be, and in four or five days spread the brood-frames and put in another frame of foundation, or an empty comb, and so on, about once a week, or as often as they need room for the queen to lay till they have all the frames they need, taking out the wide frames, putting the sections above as the room is needed for brood-frames. With the above management, I think that the colony would be considerably ahead of one hived on empty frames.

As I understand Mr. H. and Mr. D., they have concluded that it does not pay to use foundation at all in the brood-chamber; but in doing away with foundation, I think that we do away with about all the principles of scientific bee-keeping. We could not take frames of brood from stronger colonies to strengthen weak ones, or make nuclei without filling such hives with drone-comb. Mr. Doolittle tells us how to prevent the bees from building much drone-comb; but I think that the machinery would cost more than the comb foundation. The plan to manage swarms, which has been the most satisfactory to me, is, when a colony swarms, to take five or six combs of brood and honey out of the old hive and put them into the new hive, with about two frames filled with foundation or empty comb. Then hive the bees, put on the unfinished honey-boxes from the old hive, and let the bees go to work in the honey-boxes at once.

Some want to use an extractor to give the queen room. I do not do that way; but spread the brood and put in a frame filled with comb foundation. Some are troubled with too much swarming; but I do not have much swarming when I spread the brood or take out a frame of brood and put a frame of foundation in its place, occasionally giving them plenty of surplus room, shade and ventilation.

Comb foundation has come, and come to stay; and now all that we have to do is to learn how to use it to the best advantage. I, too, expect to experiment to learn how to use it; but not how to do without it.

Cuba, ♀ Ohio.

For the American Bee Journal.

Which way should Bee-Hives front?

15—J. M. VALENTINE, (165—192).

After reading Rev. M. Mahin's article on page 26, I thought I would like to give a few facts bearing on the same subject, as near as I can glean them from my bee-house record, covering a period of nine years.

Nine years ago last fall I built an octagonal shaped house with two tiers of hives, eight to the angle, all around it except to the south (in which is the door), and two hives out in the upper tier on the north for a window, making in all 54 hives permanently built in the house. Hence, I have hives in the house fronting in all directions, except due south; and the balance of my hives are out-doors, all fronting south.

I have never lost an average strong colony in the house from any cause, but I have lost 5 or 6 weak ones with bee-diarrhea, yet I have lost a greater number by dwindling and by loss of young queens after having cast a swarm. The loss of young queens has been the greatest trouble with those in the house. The greatest loss from all causes has been with those fronting southeast and southwest, and the fewest with those on the northwest and north, only one each from any cause.

The greatest amount of honey taken from a single hive was from those fronting northeast and northwest. On an average I have obtained more honey from those fronting northwest, north, and northeast; which I have attributed to the fact that there has been less swarming from those hives than from those fronting in the other directions.

I cannot give any reason why more young queens should be lost on the sunny side than on the shady fronts, unless it is that the queens are not used to the bright light, and that they can better see to mark the location of their hives on the shady side of the building. I cannot make any comparison as to the amount of honey obtained, between those in the house and the hives out-of-doors, from the fact that I have run those colonies in the house for comb honey, and the others for extracted.

Carlinville,⊙ Ills.

For the American Bee Journal.

Consumption and Sale of Honey.

A. D. STOCKING, (65—80).

Having read Mr. Heddon's article on page 756 of the BEE JOURNAL for 1884, I am induced to present a few thoughts brought out by its perusal, for the study and investigation of all producers of honey. I will not quote any of his article, but simply ask all to read it. He has often referred to the over-production of honey, the depression of the honey market, and to farmers, mechanics and others going into the bee-business; but will he or any one tell us how the keeping of a few bees by the farmers, mechanics, and others for their own use or pleasure, affects the general market? How much is his own market affected by those who keep a few bees in his own county? Can he tell what per cent. of the farmers and others in Cass county produce honey and put it upon the market? What percentage of the farmers, etc. of the county do not purchase nor consume one pound of honey in a year? and tell us why they do not?

I may be wrong, but I will venture the assertion that not 15 per cent. of "the farmers, carpenters and small children, together with invalids and widows," of Cass county, keep bees; and also that not 30 per cent. of all the people of the county buy or use honey. Of course I cannot speak correctly for his section, but I know that in this part of the country there is not nearly this percentage of the people who produce or use honey. Would it not be well to look into the causes why so small a percentage of the people are consumers of honey and to try and induce them to become such? The dullness in the honey market is not due so much to over-production as to under-consumption. There are good reasons for this non-consumption of honey. There are but few farmers who keep bees or live near towns where honey is kept for sale, and there are but few towns where it is kept for sale. Where there is any effort made to introduce it for general consumption, it is generally looked upon as a luxury, and not as a necessary article of food. If the people could be educated to look upon honey as a really necessary article of food and medicine, and also that it is one of the cheapest, the market for it would be such that the present production would not nearly supply the demand.

It is true that the bee-papers are doing all they can to bring this about, but a small proportion of the people read them. This subject should be presented to the people through the medium of the country press, and its sale should be pushed, as the sale of all other goods is, through the hands of dealers and grocerymen generally. Put honey into all the country towns and cross-roads where there is a tradesman and bring it to the notice of the people through the country papers, and by means of circulars and Leaflets, until the trade is established, and then it will take care of itself. When the producers of honey take this course to establish a market for their honey, they need have no fears of over-production, nor of too many going into the business.

Ligonier, Ind.

For the American Bee Journal.

Winter Notes for the Apiary.

J. M. HICKS.

It will be to the advantage of the bee-keeper to see that all other farm-stock, such as horses, cattle, sheep and hogs, are not allowed to run at large in the same yard where the bees are located. Keep the snow from the entrances of the hives which have been left on the summer stands. If they are not well covered, I would suggest that a good cover be placed over each hive, and also that boards be set up in front of the hives so as to keep the snow and beating rains off of them.

It will pay the bee-keeper to see that all dead bees are kept cleared away from the entrances of all hives, so that the bees may have free egress when a favorable opportunity for flying presents itself.

Now is a good time to look after the hives that the bee-keeper expects to use during the next season; and if he has no good movable-frame hive, in which he can manage his bees successfully, I would advise him to procure a sample and make all he may need for 1885. As a matter of economy, it is best to have all hives well painted with two good coats of paint thoroughly mixed with pure linseed oil, as soon as they are made. Almost any color will answer.

Battle Ground, Ind.

For the American Bee Journal.

Tree-Trunk Hibernation Theory.

W. J. DAVIS.

When Mr. W. F. Clarke promulgated his "tree-trunk" hibernation theory, I really thought that he was indulging in an apiarian pleasantry; but enough has been written to assure me that at least some of the writers on that subject are in earnest, and really believe that a colony of bees does during certain seasons of the year, become torpid, in which condition they neither eat nor breathe until a certain degree of warmth arouses them to activity; and I am led to believe that this is the popular idea of hibernation.

On page 23, Mr. Dayton says: "From a gradual appearance of moisture when a uniform temperature is maintained, one might be led to infer that the moisture commenced to condense in the cooler portions of the hive as soon as the bees began to hibernate;" on the same principle, I suppose, that some claim that dead bees generate moisture in the hive.

That the ants of cold latitudes pass the winter in a state of stupor, is a fact established by observation; that they thaw out, revive and live is also a fact; but that a colony ever becomes torpid for any considerable length of time and afterward revive and live, is simply nonsense. But, "according to Webster," hibernation simply means "to winter, to pass the season of winter in close quarters, or in seclusion." If this be the accepted definition of the term, hibernate, then a colony of bees must of necessity hibernate in all northern latitudes, no matter what are their natural or artificial surroundings. If they pass the winter at all, they have hibernated, that is, if we count each individual colony as a unit. If hibernating is passing the winter in seclusion, and each individual bee is the unit, then, of course, they cannot hibernate, for a colony of bees cannot pass the winter singly. Will not Mr. Clarke find some other term to convey the idea intended by the word "hibernation?"

Youngsville, Pa.

For the American Bee Journal.

The Pollen Theory Must Go.

S. CORNEIL.

The advocates of the pollen theory have been told over and over again, that thousands of stocks* are wintered every year with an abundance of pollen in their hives, and yet they have no disease. The reply is that "the bees do not have dysentery every year because they do not eat pollen every year," and without the consumption of "vegetable matter, either in the form of bee-bread or floating pollen in the honey," there can be no diarrhea; that in some winters the cold is so intense, and long continued, that the bees are confined to one place on the combs, until all the honey within their reach is consumed, after which they will eat pollen rather than starve; that this consumption of pollen "takes into the system matter that readily over-loads the intestines," and if they have no opportunity to void on the wing, disease ensues.

I reply, 1, that several cases are on record, in which, on dissecting healthy bees, confined in winter quarters, pollen has been found in their intestines. Dr. Donhoff and Prof. Leuckhart made such examinations and found pollen in the intestines of the bees, on every occasion except in the month of November. I made repeated examinations with the microscope last winter, when searching for dry fæces. The bees examined were taken from beneath a woolen quilt where they were very drowsy. I could always find pollen in the contents of their intestines, but there was no diarrhea.

2. I refer those who say that without pollen-eating there can be no diarrhea, to the experiment of Baron Berlepsch, described on page 371 of the BEE JOURNAL for 1881. He says: "In 1865, for sake of an experiment, I wintered a very strong colony without any pollen, but plenty of honey, and in the spring of 1866 it was the only colony among 70 which showed signs of restlessness and dysentery."

Messrs. Wm. Camm, Martin Metcalf and Dr. E. Gallup state, as the result of their observations, that stocks having no pollen, or a scarcity of it, do not winter as safely as do those which are well supplied.

3. I emphatically deny the truth of the statement that scarcity of honey within reach of the cluster, will cause the bees to eat pollen, so as to produce diarrhea. In a recent number of the Bee Journal, Dr. C. C. Miller mentions a case in which one of his colonies starved outright, leaving plenty of pollen in the combs, but not a drop of honey, and yet there was not a trace of diarrhea about the hive or combs. Last winter 13 of my stocks starved in the bee-cellar and one which I sold and guaranteed to winter safely, starved outside. I examined carefully each of the 84 combs belonging to these stocks. There was not a cell of honey in any one of them, but there was plenty of good sound pollen. There was no abdominal distension in the bees which starved outside, nor were there any signs of diarrhea. Those which starved in the cellar were in hives without bottom-boards. The combs were clean and bright, showing none of the usual signs of diseased bees. Additional evidence on this matter will be found, later on, in the observations of Messrs. D. A. Jones and J. W. White regarding winter-breeding.

4. I now go farther and state that bees often eat pollen quite freely while continuously confined to their hives, for five or six months, without over-loading their intestines, so as to produce abdominal distension, diarrhea, or spring dwindling. In taking this ground I dispute the claim which is most essential to the truth of the pollen theory. I ask the careful attention of the reader to the testimony quoted in support of my position.

Mr. Heddon says: "Whatever will cause winter breeding will engender the disease," and other supporters of the theory are in accord with him, because in rearing brood for any length of time, the consumption of pollen in considerable quantities by the bees, is indispensable, and this causes, as they say, "an aggregated loading of the intestines" producing disease unless the bees have a chance to fly. They are correct as to the consumption of large quantities of pollen in brood-rearing, but it seems strange that none of these writers ever noticed that extensive brood-rearing with its attendant consumption of pollen, frequently does take place in confinement, without producing abdominal distension, diarrhea, or spring dwindling. In support of the fact that this often occurs I submit the following testimony:

Sometime in February, 1882, Mr. D. Reekie, a bee-keeper residing about 30 miles west of this place, called on me and during our conversation he mentioned that his bees had then nearly as much brood in their combs as they should have in summer, and asked my opinion as to the probable consequences. I said I never had such a case, but I knew that some of the writers in the bee-papers would say that his bees would certainly have dysentery* before spring. At the late Ontario Bee-Keepers' Convention I asked him to state the particulars of this case. After describing the condition of his bees in the cellar, he added that they all came out in good condition the following spring, and that they swarmed early.

Mr. D. A. Jones then told us that, last winter, for some reason, he thought owing to a little light getting in at a door in one of his wintering houses, several colonies deserted their hives and entered others nearer the door. These hives became so crowded that the bees started brood-rearing extensively, in consequence of which they consumed all their honey and starved, leaving brood in all stages, in from four to six combs in each hive. On examination, the combs were found to contain pollen. They were clean and bright and the bees had no appearance of disease.

On page 381 of the Bee Journal for 1881, Mr. J. W. White writes: "In keeping bees for 17 years I have not made notes on every point but I think I may call the following a statement of facts: The colonies which wintered well were not deficient in pollen. Good colonies which starved to death exhibited no signs of disease from the use of pollen or any other cause. Good colonies which were confined for months in the cellar and were short of stores, so that they had to be fed in March and April to keep them from starvation, showed no signs of dysentery brought on by using pollen to save scanty stores of honey. In the winter of 1871-72, before I had heard of the bad effects of pollen and winter brood-rearing, and when I knew they reared brood in February, I fed my bees for about five weeks, in the cellar, a mixture of honey and flour to stimulate brood-rearing. Did they rear brood? They did. Did they get dysentery? They did not. Did they do well the next summer? It was the best year I ever had."

On page 24 of the Bee Journal for 1876, Mr. T. S. Bull describes a case in which one of his hives was accidentally upset in the bee-cellar, breaking down the combs. He fixed it up as best he could. Before spring the bees had built a frame full of new comb which was filled with brood and from which young bees had emerged. When taking his bees out in the spring this colony was found to be in splendid condition.

On page 286 of the same volume, Mr. Frank Benton describes how to prepare stocks for successful outdoor wintering. He says: "I have had stocks prepared in this manner that reared brood all winter and were in splendid condition for the next season's work. There will be no trouble about "springing" such stocks."

On page 118 of *Gleanings* for 1882, Mr. Frank Boomerhower says: "Some say that rearing brood in the cellar causes uneasiness and dysentery and spring dwindling; but if this be so, others must have different bees from mine. I have never yet had a case of spring dwindling nor any dysentery. My bees rear brood nearly all winter, never get uneasy, and always come out strong in the spring. My experience is that to have bees winter successfully, without loss, and come out strong in the spring, without spring dwindling, they must be wintered in such a shape that they will rear brood from the last of December."

Rev. E. L. Briggs has kept bees for over 30 years. In 20 years of cellar-wintering he has not lost to exceed one per cent. On page 198 of the Bee Journal for 1882, he says: "Somehow our bees out here (in Iowa) persist in living through this winter, though their combs are full of pollen, and though they have been breeding quite plentifully ever since the first of January. Something else, then, besides pollen and breeding causes dysentery."

Mr. H. V. Train has wintered his bees in a cellar for 15 years. He has not lost 5 per cent. in any winter and for the last five years has not lost one per cent. He says: "I have become so confident in my cellar and my ability to manage it, that I would not give one per cent. to have my wintering insured, if the bees are in natural condition in the fall, and I do not care how much pollen they have either." In 1879-80 his bees reared brood extensively in the cellar. When putting them out that spring, many of his 144 hives were crowded with young bees but all were in good, healthy condition. In the disastrous winter of 1880-81 he had 138 stocks confined in the cellar without a flight, for five months. One stock in a box-hive died of dysentery, being the only case of the disease he had. On putting them out nearly all had brood in all stages. Nearly one-half of his hives were literally full of young bees, being stronger in number than when placed in the cellar in the fall. The following summer he was able to offer ten bushels of bees for sale by the pound.

Mr. H. R. Boardman, "the man who does not lose his bees in winter," is not afraid of having plenty of pollen in his combs in the fall. He winters in a house built for the purpose. His hives are carried in without bottom-boards, the first row being placed on scantling. They are then tiered up, pieces of two-inch stuff being placed between the tiers. He finds that his bees start brood-rearing in February, and to keep it up he supplies water and artificial heat, when necessary. On putting them out in the spring his bees are always healthy and his hives crowded. During the winter of 1880-81 his bees were confined in winter quarters without a flight from Nov. 15 till April 15. After putting them out he writes: "I cannot see what the long, cold winter has to do with success so long as the bees are in proper condition and kept so inside a warm house." Out of 140 colonies he lost 4 by starvation. In another house at a distance, he lost 6 out of 70 from the same cause. In the following June he advertised 100 bushels of bees for sale by the pound. He has been equally successful since. Last year he wintered 241 stocks without loss or spring dwindling.

The foregoing is the testimony not of mere novices who sometimes stumble upon success, one winter accidentally and lose their bees the next without knowing the reason why, but of men who have been successful year after year, and who know how to control circumstances so as to bring their bees through safely, no matter what may be the character of the season.

The combined weight of the evidence establishes, once for all, the fact that free consumption of pollen by bees, when confined in winter quarters, does not necessarily produce bee-diarrhea; and as none of the bee-keepers quoted find it necessary to remove pollen or substitute sugar syrup for honey, in order to insure success, it establishes another fact which has been of late called in question, viz: that honey and pollen, the food provided by nature for bees, are good enough for their winter stores.

In view of the evidence which has been adduced, I believe that a large majority of the bee-keepers will agree with me that the pollen theory "must go."

Lindsay, Ont.

[*Mr. Corneil clings tenaciously to the use of the word *stocks* instead of "colonies," and dysentery instead of diarrhea. We print these words as written, by his particular request, without endorsing their appropriateness or correctness.—Ed.]

The Late Mr. D. S. Given.

The Los Angeles County Bee-Keepers' Association appointed a committee to draft resolutions of respect to the memory of the late Mr. D. S. Given. That committee has reported and the following was adopted by the Association:

David S. Given was born in Muskingum county, Ohio, in 1844, and early in life took a lively interest in apiculture, and the then rising industry found in him a progressive, enterprising worker. Gathering information from such men as L. L. Langstroth and Quinby, in the year 1864 he removed to Illinois, where he gave much study and labor to perfecting the Comb Foundation Machine which is called the Given Foundation Press. Failing health induced him to remove to Southern California, and in December, 1881, he joined our association. His kindly, gentlemanly disposition endeared him to every member of our society, and his ingenious mind suggested to us very many new and useful methods in the care of bees and their products. He was a constant attendant at our monthly meetings, and took a lively interest in the well-being of our association. Mr. Given died on July 10, 1884, at his residence, three and a half miles north of Los Angeles, leaving a wife, and one child about five years old, to mourn his loss.

Resolved, That one page of the Minute Book be dedicated to the memory of our esteemed friend and member, and that the report of the committee be engrossed upon the same.

Resolved, That his family have our heartfelt sympathy in their great loss, and that a copy of this report be sent to them by our Secretary.

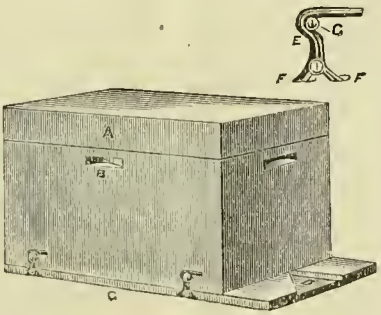
For the American Bee Journal.

Bottom-Board Fastener for Hives.

HOWARD U. ACKERMAN.

One would naturally suppose that with all the improvements made in bee-hives and "bee-fixings" during the past few years, that a new fixture would be superfluous; perhaps it is, but, nevertheless, it has appeared to me for a long time that in nearly all of the different styles of hives, there was one weak point in common, viz: the bottom-board.

It has been a study with me for the past year or two, how to construct a hive with a movable bottom, so as to combine the desirable features of a movable and a stationary bottom, and at the same time avoid the disadvantages of both styles as at present constructed and used. I at last hit upon the device shown by the accompanying illustration; with what success will be decided by the progressive bee-keepers of the country. Although the illustration shows the hive and hook so plainly, perhaps a word in explanation will give a more correct understanding of it.



The illustration represents a single-story hive, A being the cover, B the body, and C the bottom-board. The bottom-board which may be made of either ¾ or ⅞ inch boards, is cleated at each end to prevent warping, and has a graduated entrance cut into the end intended for the front, as shown at D. E is a malleable iron hook, four of which are fastened to the bottom-board—two on each side—by the aid of a screw, as shown in the figure, and the lugs, F F. The lugs are drawn tight against the underside of the bottom-board, and help to hold the hook securely in place. G is a screw driven into the body of the hive under the arm of the hook, and is left projecting about ⅜ of an inch.

To enlarge the entrance or to remove the hive from its bottom-board, one has only to slide the body forward several inches, lift it a couple of inches, and put it to one side. If it is desired to carry the hive into or out of the cellar, or to a distant part of the apiary, slide the body of the hive back, as is represented in the illustration, thus rendering it bee-tight for the time being, and it is then ready to be carried all over the neighborhood without any danger of the carrier being stung.

To convert it into a hive suitable for shipping bees, drive a small nail or brad back of each hook at E. This fastens the bottom as securely as if it were nailed direct to the body of the hive with 8-penny nails. Ventilation can be secured by holes bored into the cap or body covered with wire-cloth, or in any other way suiting the fancy of the shipper. A Langstroth, or any similar hive with a permanent bottom can be changed into a hive with a movable bottom by removing the bottom and using the hooks. I have a few standard Langstroth hives made over this way, and they work quite as well as the Simplicity.

North Indianapolis,⊙ Ind.

For the American Bee Journal.

That Reversible Frame.

C. J. F. HOWES, (48—60).

I have read with much interest the article by Mr. Heddon, on page 8, and I think that it is a very able one, which may be considered as settling the question of the advantage of reversing the brood-frames; but there is one part of it in which I feel that injustice is done; *i. e.*, the impression that he conveys, of being the originator of the device described. I can scarcely believe that Mr. Heddon intended to put forth such a claim, in the face of all the facts to the contrary; but such claim is certainly conveyed by a perusal of his article.

Mr. Heddon says: "About a year ago *I devised* the style of reversible brood-frame, as shown by the illustration." (The italics are mine.) Now, what are the facts? At the annual meeting of the Southeastern Michigan Bee-Keepers' Association, held at Adrian, Mich., on January 23, 1884, I exhibited samples of a device for reversing brood-frames, which device or plan suspended the frame by strips of wood or metal, which strips were pivoted to the center of the end-bars, and extended up to the top of the frame, there forming projecting arms to rest on the rabbets, and allowing the frame to revolve on these pivots.

In describing the device before the convention, I distinctly claimed, as my invention, the plan of suspending the frame between side-strips pivoted to the end-bars, as described.

This device was illustrated and described in *Gleanings* for March, 1884, page 156. To that article Mr. Heddon replied in *Gleanings* for April, 1884, page 232, criticizing the reversible-frame method, and advised "reversing the whole hive." In *Gleanings* for May, 1884, page 336, Mr. Heddon "reversed" his opinion and acknowledged his belief that reversing the single frame was the correct plan; and he sums up the matter as follows: "It may be argued that Mr. Howes' frame is expensive. That is true; but it need not be, as I will show you in the future."

In that article Mr. Heddon plainly states that his efforts had been directed towards a reversible hive instead of a reversible frame. This was over three months after my frame had been before the public. Evidently he then considered the plan my invention, and only intended to modify or cheapen it. That this is so, one has only to examine and compare the frames, as illustrated; his modification being a connecting of the end-strips of my frame, by a bar over the top. Whether this is, or is not, an improvement, future experiment must decide.

Adrian, ♀ Mich.

For the American Bee Journal.

Hibernation and Pollen in 1764.

C. L. SWEET.

Sometime last winter I purchased an old English book from an English family that were selling out. It was published in London, England, in 1764. The title of the book is: "The Complete Farmer, or General Dictionary of Agriculture in all of its Branches: Together with the method of Rearing Bees and of acquiring large quantities of Wax and Honey, without destroying those laborious insects: Published by a Society of Gemtlemen, Members of the Society for the Encouragement of Arts, Manufactures, and Commerce." The following extract from this book perhaps will be of interest to the readers of the BEE JOURNAL, as the hibernation and pollen theories are now being discussed. It will be interesting, as showing how far experimenters had got on these questions in 1764:

"Providence has ordained that insects which feed on leaves, flowers, and green, succulent plants, are in an insensible or torpid state from the time that the winter's cold has deprived them of the means of subsistence. Thus the bees, during winter, are in so lethargic a state, that little food supports them; but as the weather is very changeable, and every warm or sunny day revives them, and prompts them to return to exercise, food becomes necessary on these occasions.

"Mr. White very judiciously observes, that a greater degree of cold than is commonly imagined to be proper for bees, is favorable to them in winter. 'If a sharp frost,' says that experienced gentleman, 'continues for two or three months, without intermission,you may observe,through your glass, that the bees are all this time closely linked together in clusters between the combs. If they are not altogether without motion, yet it is certain that they stir not from their places, while the cold continues, and therefore eat not at all. A colony of bees, therefore, placed on the north side of a building, will waste much less of their provisions, than others which stand in the sun; for coming seldom forth, they eat little; and yet in the spring are as forward to work and swarm, as those which had twice as much honey in the preceding autumn. The owner should, however, examine their state in the winter, and if he finds that instead of being clustered between the combs, they fall down in numbers on the stool or bottom of the hive, the hive should be immediately carried to a warmer place where they soon recover.

"Most writers on the subject have observed that these insects are subject to a kind of purging in the spring, which is often fatal to the whole hive. Madam Vicat ascribes this distemper to the honey being candied in the hive by the cold. But Columella describes it as an annual distemper which seizes them in the spring, when the spurge blossoms, and the elm discloses its seeds; for the bees, being allured by the first flowers, feed so greedily upon them that they surfeit themselves therewith, and die of a looseness, if they are not speedily relieved.'

"He relates Hyginus's advising, in this case, to cover the bees with ashes of the fig-tree; and affirms, that, being enlivened by the warmth of these ashes, the bees will revive in two hours, and go into a hive brought to them. Columella advises giving them rosemary and honey diluted with water. Aristomachus seems to have prescribed the most effectual cure, namely, to take away all the vitiated combs, that is, all the combs in which there are open cells appearing to contain candied honey.

"The authors of the *Maison Rustique*, impute this purging to the bees' feeding on pure honey, which does not form a food sufficiently substantial for them, unless they have bee-bread to eat at the same time; and advise giving them a honey-comb taken from another hive, the cells of which are filled with crude wax or bee-bread.

"The common practice is to feed them in the autumn, giving them as much honey as will bring the whole weight of the hive to nearly twenty pounds. To this end, the honey is diluted with water, and then put into an empty comb, split reeds, or, as Columella directs, upon clean wool, which the bees will suck perfectly dry.

"The following directions given for this purpose in the *Maison Rustique*, seem to be very judicious: 'Replenish the weak hives in September, with such a portion of combs full of honey, taken from other hives, as shall be judged to be a sufficient supply for them. In order to do this, turn up the weak hive, after taking the precaution of defending yourself with the smoke of rags, cut out the empty combs, and put the full ones in their place, where secure them with pieces of wood run across, in such manner that they may not fall down when the hive is returned to its place. The bees will soon fix them more effectually. If this method be thought too troublesome, set under the hive a plate of liquid honey, unmixed with water, with straws laid across it, and over these a paper pierced full of holes, through which the bees will suck the honey, without daubing themselves. This should be done in cloudy or rainy weather, when the bees stir least abroad; and the hive should be covered, to protect the bees from robbers, which might be allured to it by the smell of honey.'"

Glenwood, ☌ Ills.

For the American Bee Journal.

Italians vs. Foul Brood, etc.

GEO. W. WEBSTER.

A few years ago I found some of the colonies in my apiary at Bonair, Iowa, troubled with what I feared might prove to be foul brood. There was more or less dead brood in the cells, varying from a few cells in each frame to one-half of all the brood, and this in the middle combs, too, so that it could not be accounted for as chilled brood. It also continued all summer. The bees kept at work gathering a surplus of honey, and sometimes swarming, but they did not do as well as the other colonies. There was no foul odor about the hives.

I wrote to Mr. G. M. Doolittle, describing the disease, but he did not think that it was foul brood. Neither did I; still I was anxious about it and watched it very closely. It did not seem to spread in the apiary. Of course I tried to not give much opportunity for other bees to get any of the honey. One colony finally became so bad that I concluded to brimstone the bees, heat up the honey, and melt the combs into wax.

About Aug. 15, I took out the queen and did not allow the bees to rear another, thus getting rid of all living brood. This also gave them a chance to fill the hive with honey. When the first frost came I brimstoned the bees, when, to my surprise, I found as nice and clean combs of honey as I ever saw. There was not the least sign of any dead brood having been in the colony.

The next year 5 or 6 colonies showed signs of the disease. At this time I was rearing Italian queens and Italianizing my apiary as fast as I could get pure queens, keeping out all impure drones. I had but few hybrids left, and I noticed that the dead brood was confined to the hives containing darkest hybrids. As fast as I could give these pure queens, all signs of dead brood disappeared; *i. e.*, when the pure Italians began to hatch. At the end of the season only one colony had any dead brood, and that was a colony of dark hybrids.

The next winter I had all the bees in large chaff hives, and left them on the summer stands. My apiary was centrally located in a grove of twenty acres of cottonwoods, poplars, maples and evergreens, 25 to 60 feet high, affording the most complete protection from winds, and I only lost one colony, that being caused by the entrance becoming closed so that the bees could not get out. In the spring I watched the colony of diseased hybrids with much interest, to see if the warmer hive would help them to keep out the foul brood, as I had an idea that the disease originated in the spring by the brood becoming chilled. It seemed, however, to make no difference; there was as much dead brood as ever.

As soon as I could I gave them a queen-cell from an Italian colony, and in due time they had a pure queen By the time the colony was half Ital ianized, not a vestige of dead brood could be found in the hive. I account for the change in one of two ways: Either the Italian brood has more vitality to resist disease, or the effect was produced by the greater energy of the Italians in cleaning up the combs and keeping all foul matter out of the hive.

I have no doubt that many colonies have been destroyed on the suspicion that they had foul brood, when the introduction of Italian queens would have obviated all difficulties. The Italians are better house-keepers and nurse-bees, and more vigorous in protecting their hives from all intruders. They keep the brood covered better in cool weather, or when the hives are opened. I have found light-colored hybrids as good workers as pure Italians, but not so easy to handle. In my own experience I have found that the darker the bees the crosser they are.

When the above-mentioned colony of hybrids were changed to about one-half pure Italians, by the introduction of an Italian queen, and all signs of dead brood had disappeared, I concluded to extract the honey, which I had not done before lest other bees might get the honey. The dark hybrids were very cross, but with a good veil, my hands covered, except my fingers, and an assistant to smoke the rascals when they went on the war-path, I attacked them and took 60 pounds of nice, white clover honey, but received ten stings in the operation from the remaining hybrids. My assistant received three or four stings and then retired to a place of greater safety. I would rather handle 3 colonies of Italians than 1 of dark hybrids or blacks, and I shall defend pure Italians every time until I find something better.

In November, 1883, I came to Florida and shipped by express some nuclei with untested queens, so as to be sure to get a good stock of Italians. Thirteen out of 15 queens, proved to be pure Italians. In January there were severe frosts, for this country, and quite cool weather for nuclei. As soon as the bees were well at work, and the brood was hatching, I found dead brood in one nucleus of the hybrids. As soon as I could rear a pure queen for them, the dead brood all disappeared as it had done in Iowa.

We are not situated in the best location for honey, as we came here for health, and not purposely to keep bees. In my opinion the only healthy places in the South are on what is called high pine land, and several miles from any sluggish river or rich hammock land. We have taken nearly 50 pounds of honey per nucleus, sold $13 worth of queens, and have 22 colonies on hand. This, perhaps, is not a very good showing, but a fair profit on our labor.

I know of no place in Florida where bee-keeping could profitably be followed exclusive from other business except at New Smyrna, 18 miles east from here, and there is only a small section of a few miles in length where the black mangrove grows on the islands in the Helsborough river. That location is already pretty well occupied. We are 9 miles east of the St. John's river, and 18 miles from the coast, near the eastern boundary of what is called high pine land, so that our bees have the range of high pine flat-woods a mile to the east, and scrub at one point within one-half mile south. Scrub is a worthless white sand covered with scrub pine and a great variety of low brush, palmetto, whortleberry, etc. Flat-woods are low and very level, during the wet season a good deal of it being covered with water.

Raising oranges and other fruit is the principal business here, and it is not much trouble to keep a few bees also. We had three honey-flows when the bees gathered a surplus: In January, from the scrub pine; in February and March, from Orange blossoms; and in May, from palmetto. We have been here three winters, and the season of blossoming has varied from 4 to 6 weeks. This winter we have had no frost, and orange trees are putting out blossom buds now. Last year we had hard frosts in January, and oranges blossomed in March.

I think that this is a very healthy place for people troubled with catarrh, asthma, bronchitis or rheumatism. Dyspeptics are often much benefited in the pine woods. But to get health here, one needs to be out-of-doors a great deal. The soil is a light sand, and will not produce much without being fertilized. Many people buy all their vegetables, but with a little fertilizing we are having as nice vegetables as I ever ate in any country. Cabbages, turnips, collards, radishes, beets and lettuce are very nice and tender. Egg-plant, tomatoes, squashes and melons are easy to raise. Sweet potatoes grow every where, but one has to learn how to cultivate them. A poor man here would have to support himself by working for others at $1.25 to $1.50 per day for common work.

Lake Helen.⊙ Fla., Jan. 13, 1885.

For the American Bee Journal.

The International Congress.

The bee-keepers who signed the Call for the International Congress, now add the following "Notes for bee-keepers who intend going to the Convention at New Orleans on Feb. 24, 25 and 26, 1885:"

The Convention will assemble at 10 a. m. in the Lecture Hall on the Exposition Grounds. Among the subjects which will be considered during the sessions of the Convention will be reports of the honey resources and production of America and Europe; preparation of honey for market; transportation; lower rates of freight; marketing; the advantages of the use of comb foundation; sections, the best size and the best way to use them; the best race of bees for America; prevention of swarming; fertilization of queens; bee-pasturage; bee-keeping as a pursuit; besides the discussion of other questions of interest that will be propounded. Essays to elicit discussion are expected from some of the most prominent bee-keepers of Europe and America.

Bees and bee-keepers' supplies for exhibition must be sent with *all freight prepaid*, and directed to Maj. E. A. Burke, Director General of the Exposition, for Department of Agriculture, New Orleans, La. The Board of Management of the Exposition has established a Department of Information and Accommodation, at Nos. 164 Gravier and 15 Union streets, for the purpose of furnishing visitors with information as to suitable board and lodging houses, or furnished rooms with directions how to reach them. For such service no charge is made.

Bee-keepers, on arrival in the city, are advised to go at once to the office of this department and make the best arrangements that they can for quarters, and if they will leave their cards and address at the same place, their friends will know where to look for them. The most of the visitors to the Exposition find it best and cheapest to rent rooms and take their meals at restaurants. Furnished rooms will cost from 75 cents to $1 for each person, per day, and board and lodging about double these rates. We are assured that the hotels have not advanced their rates, which are $2 to $3, according to the location of rooms, etc. THE COMMITTEE.

Local Convention Directory.

Time and place of Meeting.

1885.

Feb. 4.—N. E. Michigan, at Vassar, Mich.
W. Z. Hutchinson, Sec., Rogersville, Mich.

Feb. 11.—Seneca Co., N. Y., at Ovid, N. Y.
Ira Wilson, Sec., Ovid, N. Y.

Feb. 17.—Ohio State, at Columbus, Ohio.
C. M. Kingsbury, Sec., Mt. Vernon, O.

Feb. 24-26.—International, at New Orleans, La.

Mar. 11.—New Jersey and Eastern, at N. Y. City.
W. B. Treadwell, Sec., 16 Thomas St., New York.

April 3.—N. E. Kansas, at Hiawatha, Kans.
L. C. Clark, Sec., Granada, Kans.

May 4.—Linwood, Wis., at Rock Elm Centre, Wis.
B. Thomson, Sec., Waverly, Wis.

May 28.—N. Mich. Picnic, near McBride, Mich.
F. A. Palmer, Sec., McBride, Mich.

June 19.—Willamette Valley, at La Fayette, Oreg.
E. J, Hadley, Sec.

☞ In order to have this table complete, Secretaries are requested to forward full particulars of time and place of future meetings.—ED.

☞ The New Jersey and Eastern Bee-Keepers' Association will hold their next annual convention at Cooper Union, in New York City, beginning on Wednesday, March 11, 1885, and to continue two days or more. The committee promises a good programme, and extends a cordial invitation to all.

W. B. TREADWELL, Ass't. Sec.

☞ The Ohio bee-keepers will hold their annual convention in the Agricultural Room of the State House at Columbus, Ohio, on Feb. 17, 1885. All subjects pertaining to bee-culture will be discussed, more especially those of spring and summer management of bees. Eminent speakers will be in attendance. All are cordially invited.

C. M. KINGSBURY, Sec.

SELECTIONS FROM OUR LETTER BOX

☞ A. F. Unterkircher, Manchester,◦ Mich., on Jan. 16, 1885, writes as follows concerning the past season:

The season of 1884 was very unfavorable for bees in this section, on account of the weather being so extremely dry for white clover and fall flowers. There are many acres of buckwheat within reach of our bees, but it is most certainly a very poor honey-plant. Basswood was a failure, and scores of basswood trees are being made into pickets for fences. I obtained my first 9 colonies of bees in the fall of 1881, and from them I now have 80 colonies all in good condition. I have lost only one colony, which died from starvation with plenty of honey in the hive.

☞ R. P. Williams (15—15), Goldsmith,⊙ Ind., on Jan. 12, 1885, reports thus:

The past season was a very poor one for honey here. There was an abundance of white clover bloom, but very little honey was gathered from it, and basswood did not yield much honey. There will be considerable loss among those who paid no attention to their bees. I started in the spring with 15 colonies, and obtained only 300 pounds of extracted honey, and had no swarms at all. I never have secured any fall honey, and never have lost but one colony of bees with bee-diarrhea: that was in the winter of 1880, and I fed it on dark sugar. I never take any pollen from them in the fall, but let them be their own judge of that. They are all alive yet.

☞ 10—John Rey, (35—56), East Saginaw,⊙ Mich., on Jan. 17, 1885, reports as follows as to the condition of his bees:

My bees are under the snow, one-half of the hives being entirely out of sight, and the caps of the other half being slightly visible. We had a snow-storm here today, and the snow drifted badly; but I am not alarmed about my bees, for I have the bottom-boards cut off even with the bottoms of the hives, and the hives leaning forward. There is no chance for the water to run into the hives, and when it thaws I will shovel the snow away. This same thing occurred to my hives three winters ago, and the bees wintered all right. They get plenty of air under the snow.

☞ J. Rutherford, Scranton,◦+ Pa., writes thus about "a hard nut to crack:"

On page 5, Mr. G. M. Doolittle says: "The first fact to which I wish to call the reader's attention, as bearing on this winter question, is that the intestines of the newly hatched bee are filled with pollen when it emerges from the cell, etc." Now, if I understand things rightly (scientifically), the intestines of the young bee are not filled with pollen, because the young bee in the larval state does not eat pollen; therefore, it is impossible for any one to see it with the naked eye. The food of the young bee consists of a purely animal secretion, which is, no doubt, produced by a gland in the gullet of the nurse-bee, and this highly prepared food is absorbed by the larva, leaving no matter to void; and it is also a fact that we often find our 4-frame nuclei with young queen put into winter quarters, weak with bees, and after four months' confinement come out in the spring bright and clean, and stronger than two-thirds of our best colonies. Will Mr. Doolittle kindly reply through the Bee Journal, as all I want is to get at the truth of the matter.

☞ W. H. Miller, Berrien Springs,♀ Mich., on Jan. 19, 1885, reports thus:

Last spring I started with 35 colonies and increased them to 68, which are now packed in shavings on the summer stands. All seem to be doing well, as they remain very quiet. I think that they have enough honey to last them through the winter. I obtained about 1,100 pounds of white comb honey; nearly all of it being in one-pound sections.

☞ James Heddon, Dowagiac,♀ Mich., writes as follows about hybrids and pollen:

While we all expect Prof. Cook to lead us upon all topics specially belonging to the entomology of bees, I wish to thank him for his expression of what he has found to be true regarding hybrids and pollen, as given on page 41. I have 91 colonies in a new cellar. This cellar is damper than the old one. I have purposely "abused the bees" in this cellar, by allowing the temperature to get below the freezing point, by several degrees, being aware, as Prof. Cook says, and as I have formerly said, that bees can winter well with plenty of pollen in the hive, if all other conditions are right; and as a part of the colonies are sugar-fed and pollenless, while a lesser part have honey and pollen, I hope to get a test.

☞ R. A. Rosser, Nelsonville,◦ O., on Jan. 19, 1885, reports as follows:

My apiary is all that helped me out this season. I have obtained 1,100 pounds of comb honey from 22 colonies, spring count, and I increased them to 42 colonies, by natural swarming. I think that is pretty good, considering the dry season. I think that the Bee Journal is a great help in bee-keeping.

☞ Earle Clickenger, Columbus,⊙ Ohio, on Jan. 19, 1885, reports thus:

In the fall of 1883 I had 25 colonies packed in chaff-hives on the summer stands, but I lost one by starvation. In the spring of 1884 I purchased 15 colonies, increased them to 54 colonies, by natural swarming, and I obtained 1,500 pounds of comb honey and 500 pounds of extracted. The past season was the poorest one for honey in the past 5 years. I have 28 colonies in my bee-cellar, and 26 colonies packed in chaff on the summer stands.

☞ 27—F. A. Snell, (80—110) Milledgeville,⊸ Ills., on Jan. 21, 1885, reports thus:

I am much pleased to notice that the Bee Journal is of age. It has done a noble work in the years of its existence. Through its pages a vast amount of information has been gleaned by its host of readers. I have kept bees for 27 years (for 25 years in my present location), and I have been a regular subscriber to the Bee Journal for 17 years, and to which I owe very much of the knowledge which I now possess. I am especially well pleased with it this year. In November, 1883, I put 105 colonies into winter quarters, and in April, 1884, 100 of the number were placed on the summer stands, having lost 5 from various causes. I sold 20 in the spring, and thus commenced the season with 80 colonies. I increased them to 110 colonies, which were put into winter quarters about Nov. 20, 1884. My surplus honey was fine in quality, having been gathered from clover and linden bloom. I obtained 2,200 pounds of comb honey, and 3,000 pounds of extracted, being an average of 65 pounds per colony, spring count. We had none of the so-called honey-dew. I winter my bees mostly in the cellar, which, for a long term of years, has proved to be the best place or method that I could find, and I have experimented a great deal in this direction. The past season, with me, was below the average, and those apiaries run on the "go-as-you-please" plan here, produced but little or no surplus honey. In the death of Mr. W. W. Cary, our fraternity has lost a noble brother.

☞ Lee Emrick, Lone Tree,⊸ Mo., on Jan. 20, 1885, reports as follows:

The past season's honey crop was light here, and consequently there was no trouble to find sale for extracted honey at 15 cents per pound. Bees were in good condition when they were put into winter quarters. This winter, so far, has been a severe one for this latitude. The temperature was down to 12° below zero this morning, and the ground is covered with 6 inches of snow. Cass county is on the western border of Missouri, and Lone Tree is 50 miles south of Kansas City.

☞ A. P. Lawrence, Hickory Corners,♀ Mich., on Jan. 17, 1885, reports thus:

Last winter I wintered 34 colonies of bees and bought some, so I had 50 colonies to start with in the spring. I increased them to 84 colonies, and my crop of honey was 1,000 pounds of extracted and 1,300 pounds of comb honey. One colony gathered 50 pounds of honey in one week. There was a splendid flow of honey before harvest, but there was not much honey after Aug. 1. I have 91 colonies in the cellar in good condition. I use comb foundation, and I should have it if it cost $1 per pound. My bees never amounted to much until I used comb foundation. Italian bees are my favorites—no black bees for me. I have wintered my bees in the cellar for 6 years, and never lost a colony that had honey enough to winter on. I have no trouble in wintering bees if they have plenty of good honey, but the worst trouble is to keep them from dwindling in the spring.

☞ Ellery D. Frost, Almond,⊙ Wis., on Jan. 13, 1885, reports thus:

A year ago last spring I had one colony of bees which I increased to four. They wintered well in the cellar, where I now have 8 colonies with from 20 to 40 pounds of good honey in each hive. The main source of honey here has been white clover which was very abundant during June and July. I obtained 400 pounds of honey, 140 pounds being the most taken from one colony. There are few bees in this section, and not many wild honey-producing flowers, but clover is very abundant.

◆

☞ The executive committee of the North American Bee-Keepers' Society have decided to hold the next annual meeting at Detroit, Mich., on Dec. 8, 9 and 10, 1885. If there is any reason why this date is undesirable, it should at once be made known, so that the committee may be governed accordingly. W. Z. Hutchinson, Sec.

[As the Michigan State Convention has already decided to meet with the National at Detroit, would it not be a good idea to have the "Northwestern" of Chicago also meet at the same time and place, and have one grand, rousing meeting?—Ed.]

Convention Notices.

☞ It is proposed to hold an International Bee-Keepers' Congress on the World's Exposition Grounds at New Orleans, La., Feb. 24, 25 and 26, 1885. An interesting programme of subjects of great importance to every bee-keeper in America will be presented and discussed. The disposition of our honey product, with a view to secure better prices will be fully considered. At the same time there will be an Exhibit of Bees and Apiarian Supplies. At the time now selected, the Exposition will be at its best, and excursion rates low. The bee-keepers of our country should lay aside business for a week or two, and make every exertion to attend this Convention. Come prepared with facts, statistics and ideas arranged, to take part in its deliberations.

Dr. J. P. H. Brown, Augusta, Ga.
Dr. N. P. Allen, Smith's Grove, Ky.
W. Williamson, Lexington, Ky.
Dr. O. M. Blanton. Greenville, Miss.
P. L. Viallon, Bayou Goula, La.
Judge W. H. Andrews, McKinney, Tex.
W. S. Hart, New Smyrna, Florida.
S. C. Boylston, Charleston, S. C.
H. C. Austin, Austin's Springs, Tenn.
R. C. Taylor, Wilmington, N. C.
J. W. Porter, Charlottesville, Va.
S. Valentine, Hagerstown, Md.

☞ Dr. J. P. H. Brown, Augusta, Ga., writes thus concerning our "Bee-Keepers's Convention Hand-Book:" I have examined it, and find it most superbly gotten up. You have embodied in it all the gist of the Parliamentary Manuals of Jefferson, Cushing and Mell. Aside from the information it contains, no bee-keeper can afford to do without it for a memorandum book."

☞ The second annual meeting of the Seneca County Bee-Keepers' Association will be held in the Engine House at Ovid, N. Y., on Feb. 11, 1885, at 9 a. m. All interested are cordially invited to attend, and make the meeting as profitable as possible. All implements of the apiary sent to the Secretary will be exhibited at the meeting, and will be disposed of or returned as the owner directs.

IRA WILSON, Sec.

☞ The Willamette Valley Bee-Keepers' Association will hold its second meeting at La Fayette, Oregon, on the third Tuesday in June, 1885. All who are interested are invited to attend. E. J. HADLEY, *Sec.*

☞ The Northeastern Michigan Bee-Keepers' Association will hold its third annual convention on Feb. 4, 1885, in the Opera House, at Vassar, Mich. No local society has better meetings than the N. E. Michigan. Reduced Hotel rates may be secured. President Taylor has visited New Orleans, and will probably be able to give an interesting account of the apiarian department of the Exposition. Those going on the cars will please write for railroad certificates and secure reduced rates.

W. Z. HUTCHINSON, Sec.
Rogersville, Mich.

☞ Every subscriber is kindly invited to obtain a *new* subscriber to send with his renewal. Please notice the premiums offered for clubs, on another page.

Special Notices.

The Bee Journal for 1885.

To increase the number of readers of the BEE JOURNAL, we believe, will aid progressive bee-culture and help to elevate the pursuit. We, therefore, offer the following

CASH PREMIUMS FOR CLUBS.

$10.00 for the largest club received at this office before Feb. 1, 1885 (either of the Weekly, Monthly, or both); one Weekly counts same as 4 Monthlies.

$5.00 for the second largest; $4.00 for the third; $3.00 for the fourth; $2.00 for the fifth; and $1.00 for the sixth largest club.

Subscriptions for two or more years for one person, will count the same as each year for a different person.

Apiary Register—New Edition.

All who intend to be systematic in their work in the apiary, should get a copy and commence to use it. The prices will hereafter be as follows:

For 50 colonies (120 pages)......	$1 00
" 100 colonies (220 pages)......	1 25
" 200 colonies (420 pages)......	1 50

The larger ones can be used for a few colonies, give room for an increase of numbers, and still keep the record all together in one book, and are therefore the most desirable ones.

☞ We want one number each of the JOURNAL of Aug. 1866, Feb. 1867. Any one having them to spare will please send us a Postal card. We will take the first that offer them, and pay 25 cents each for the 2 numbers.

☞ For two subscribers for the Weekly BEE JOURNAL (or 8 for the Monthly) for one year, we will present a Pocket Dictionary, and send it by mail postpaid.

☞ We will send sample copies free to all who wish them, or desire to get up Clubs. Now is the time to work for the Cash premiums we offer. A large club for the Monthly can be gotten up in almost every locality.

☞ For $2.75 we will supply the Weekly BEE JOURNAL one year, and Dzierzon's Rational Bee-Keeping, in paper covers; or the Monthly BEE JOURNAL and the book for $1.25. Or, bound in cloth, with Weekly, $3.00; with the Monthly, $1.50.

☞ Our rates for two or more copies of the book, "Bees and Honey," may be found on the Book List on the second page of this paper. Also wholesale rates on all books where they are purchased "to sell again."

☞ To Canadian subscribers let us say that we have made arrangements so that we can supply the *Farmer's Advocate* of London, Ont., and the Monthly BEE JOURNAL for one year at $1.25 for the two.

Advertisements.

THE AMERICAN BEE JOURNAL is the oldest Bee Paper in America, and has a large circulation in every State, Territory and Province, among farmers, mechanics, professional and business men and is, therefore the best advertising medium.

Bee-Keepers' Badges at Fairs.

We have some **ELEGANT RIBBON BADGES,** having a rosette and gold Bee, for bee-keepers' use at Fairs, Conventions, etc. Price 50 cents each, by mail, postpaid.

Address, **THOMAS G. NEWMAN,**
925 West Madison St., CHICAGO, ILL.

LANG'S LIVE SEEDS,

Northern-Grown, Carefully Tested.

Flower, Vegetable, Field and Tree Seeds.

50 page Illustrated Catalogue, **free.**

$5,000 **WORTH OF PREMIUMS** to be given to those who get up clubs for my **Live Seeds.** Gold and Silver Watches, Guns, Household Articles, Farming Implements, etc., can be easily earned canvassing for my seeds.

$150 **WORTH OF SEEDS** to be given to those who get in the first orders for 1885. Hurry up your orders and try and get your seeds free of charge. See page 27 of Catalogue.

HUNDREDS **OF DOLLARS** to be given as Premiums for the largest crops. See Premium List.

LANG'S **HAND WEEDER** is the most practical, common-sense weeding implement ever offered, and it is receiving the praises of Seedsmen, Gardeners, Florists, Farmers and in fact everybody. Thousands are being sold in every part of the U. S. Send for one: only **50 cents prepaid. AGENTS WANTED.**

3A81t **F. N. LANG, Baraboo, Wis.**

BINGHAM SMOKERS.

I can sell the above Smokers at MANUFACTURERS' PRICES, by mail or express, at wholesale or retail. All the latest improvements, including THE CONQUEROR, and THE DOCTOR.

Send for my 32-page Illustrated Catalogue of Bee-Keepers' Supplies of every description.

ALFRED H. NEWMAN,
923 W. Madison, CHICAGO, ILL.

BEE-KEEPERS' GUIDE;

Or, MANUAL OF THE APIARY.

12,000 SOLD SINCE 1876.

13th Thousand Just Out!

10th Thousand Sold in Just Four Months!

3,000 Sold Since May, 1883.

More than 50 pages, and more than 50 fine Illustrations were added in the 8th edition. The whole work has been thoroughly revised, and contains the very latest in respect to bee-keeping. It is certainly the fullest and most scientific work treating of bees in the World. Price, by mail, **$1 25.** Liberal discount to dealers and to clubs.

A. J. COOK, Author and Publisher,
1C1y Agricultural College, Mich.

☞ For sale also at the Office of the BEE JOURNAL, at wholesale or retail.

CLUBBING LIST.

We will supply the **American Bee Journal** one year, and any of the following Books, at the prices quoted in the last column of figures. The first column gives the regular price of both. All postage prepaid.

	Price of both.	*Club*
The Weekly Bee Journal,	$2 00..	
and Cook's Manual, latest edition	3 25..	3 00
Bees and Honey (T.G.Newman) cloth	3 00..	2 75
Bees and Honey (paper covers)	2 75..	2 50
Binder for Weekly Bee Journal	2 75..	2 50
Apiary Register for 100 colonies	3 25..	3 00
Dzierzon's New Bee Book (cloth)	4 00..	3 00
Dzierzon's New Book (paper covers)	3 50..	2 75
Quinby's New Bee-Keeping	3 50..	3 25
Langstroth's Standard Work	4 00..	3 75
Root's A B C of Bee Culture (cloth)	3 25..	3 10
Alley's Queen Rearing	3 00..	2 75
The Weekly Bee Journal one year		
and Gleanings in Bee-Culture (A.I.Root)	3 00..	2 75
Bee-Keepers' Magazine (A.J.King)	3 00..	2 75
Bee-Keepers' Guide (A.G.Hill)	2 50..	2 35
Kansas Bee-Keeper	3 00..	2 75
The Apiculturist, (Silas M. Locke)	3 00..	2 90
The 6 above-named papers	6 50..	6 00

THOMAS G. NEWMAN,
925 West Madison Street., Chicago, Ill.

Create a Local Honey Market.

Now is the time to create Honey Markets in every village, town and city. Wide-awake honey producers should get the Leaflets "Why eat Honey" (only 50 cents per 100), or else the pamphlets on "Honey as Food and Medicine," and scatter them plentifully all over the territory they can supply with honey, and the result will be a *demand* that will readily take all of their crops at remunerative prices. The prices for "Honey as Food and Medicine" are as follows:

Single copy 5 cts.; per doz., 40 cts.; per hundred, $2.50. 500 will be sent postpaid for $10.00; or 1000 for $15.00. On orders of 100 or more, we will print, if desired, on the cover-page, "Presented by," etc., (giving the name and address of the bee-keeper who scatters them). This alone will pay him for all his trouble and expense—enabling him to dispose of his honey at home, at a good profit.

☞ To give away a copy of "Honey as Food and Medicine" *to every one who buys a package of honey*, will sell almost any quantity of it.

◆

☞ The long winter evenings will be well occupied by reading bee literature. When renewing your subscription, it will be well to get some good bee-books. See our list of books on the second page and select what you need.

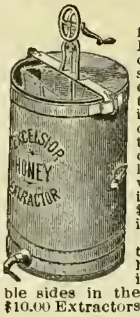
W. Z. HUTCHINSON,

Rogersville, Genesee Co., Mich.,

can furnish just as neat, white, smooth and perfect, dovetailed, white poplar sections as there are made. Send for sample and prices.

4Dtf

EXCELSIOR
HONEY EXTRACTORS



In answer to frequent inquiries for Extractors carrying 3 and 4 Langstroth frames, I have concluded to adopt these two new sizes. The 3 frame basket is in a can of the same size and style as the 2 frame. The 4 frame basket is in the larger can, with the cone or metal standard for the basket to revolve upon, leaving room underneath the basket for 75 or 80 lbs. of honey. It will be complete, with covers, and in every way identical, except in size, with the $16.00 Extractor, 13x20, which is intended for any size of frame.

Excepting with the $8.00 Extractors, all the different styles have strainers over the canal leading to the honey gate, and movable sides in the Comb Baskets. The $8.00 and $10.00 Extractors have no covers.

For 2 American frames,	13x13	inches	$8 00
For 2 Langstroth "	10x18	"	8 00
For 3 " "	10x18	"	10 00
For 4 " "	10x18	"	14 00
For 2 frames of any size,	13x20	"	12 00
For 3 " "	13x20	"	12 00
For 4 " "	13x20	"	16 00

ALFRED H. NEWMAN,
923 West Madison St., CHICAGO, ILL.

Dadant's Foundation Factory, wholesale and retail. See Advertisement in another column.

Premium for Club of 10 Subscribers.

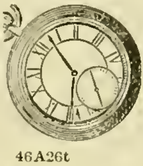
The book for every farmer is the one entitled "Affleck's Farmer's and Planter's Record and Account Book," in which there is the most systematic, complete and convenient arrangement of headings for every Farm Account and memoranda of all important events which may occur in connection with his business. Every progressive farmer certainly desires to make a success of his occupation, and should adopt every possible means of bringing about that result. He, then, should have a correct knowledge of his entire business, which he can have only by keeping a correct account of every crop produced on his farm, the cost of production of all his live stock and an itemized account of all his expenses. Then at the close of the year, when he takes off his balance sheet, which is admirably arranged in the book above referred to, he will be able to see at a glance whether his farm does or does not pay.

This valuable book contains 166 pages, is nicely printed on writing paper, ruled and bound, and the price is $3.00. It can be sent by mail for 24 cents extra.

We can supply these books at the publisher's price, or will make a **present** of one copy for every club of TEN subscribers to the Weekly Bee Journal for one year, with $20. Four subscribers to the Monthly will count the same as one for the Weekly.

Now is the time to get up Clubs. Who will work for a copy of this valuable book.

Dadant's Foundation Factory, wholesale and retail. See Advertisement in another column.



We will send you a watch or a chain BY MAIL OR EXPRESS, C. O. D., to be examined before paying any money and if not satisfactory, returned at our expense. We manufacture all our watches and save you 30 per cent. Catalogue of 250 styles free. Every Watch Warranted. Address

STANDARD AMERICAN WATCH CO.,
PITTSBURGH, PA.

46A26t

Muth's Honey Extractor,

Square Glass Honey Jars, Tin Buckets,
Langstroth Bee-Hives, Honey-Sections, etc.

Apply to **C. F. MUTH,**
976 and 978 Central Ave., **CINCINNATI, O.**

☞ Send 10c. for Practical Hints to Bee-Keepers.

Subscription price of each periodical named below.	Our Club List.		Combination price with our paper. Both Periodicals for
1 00	Boston Globe	w	3 00
2 50	" Every Other Saturday, *Lit.*	s-m	4 10
1 50	" Our Little Ones, (O. *Optic*)	m	3 25
4 00	Chicago Current, *Literary*	w	5 20
1 50	" Drovers' Journal	w	3 40
1 50	" Farmers' Review	w	3 20
1 00	" Herald, *Independent*	w	2 85
1 00	" Inter-Ocean, *Republican*	w	3 00
2 50	" " "	s-w	4 40
2 50	" Religio-Phil. Jour., *Spirit.*	w	4 10
3 00	" Skandinaven, *Swedish*	w	3 85
3 00	" Staats-Zeitung, *German*	w	3 80
3 25	" Svenska Tribunen, *Swed*	w	4 00
3 50	" Standard, *Baptist*	w	4 35
1 25	" Times, *Democratic*	w	3 20
1 00	Cincinnati Times-Star, *Ind*	w	3 00
1 15	" Enquirer, *Democratic*	w	3 15
1 25	" Gazette, *Republican*	w	3 05
1 00	Detroit Free Press, *Family & Lit.*	w	3 00
1 00	Kansas City Journal, *Republican*	w	3 00
1 00	" Times, *Democratic*	w	3 00
1 50	Louisville Courier-Journal, *Dem.*	w	3 30
2 00	Milwaukee Peck's Sun, *Humor*	w	3 85
1 50	New York Am. Agriculturist	m	3 10
4 00	" Art Amateur	m	5 25
1 50	" Christian Herald, *Ills*	w	3 20
4 00	" Century, *Literary*	m	5 70
2 00	" Demorest, *Ladies*	m	3 70
1 75	" Golden Argosy, *Lit*	w	3 25
2 50	" Graphic, *Illustrated*	w	4 00
4 00	" Harpers' Weekly, *Illus*	w	5 40
2 50	" Leslie's Sunday Mag	m	4 20
5 00	" North Amer. Review	m	6 30
2 00	" Phrenological Journal	m	3 75
2 00	" Rural New Yorker	w	3 85
2 20	" Scientific American	w	4 95
1 00	" Times, *Ind. Republican*	w	3 00
1 25	" Tribune, *Republican*	w	3 10
1 00	" World, *Democratic*	w	3 [illegible]0
2 00	Philadelphia Call, *Lit. & Humor*	w	4 00
2 00	" Arthur's Home Mag	m	3 50
2 00	" Godey's Lady's Book	m	3 70
3 00	" Hearthstone, *Fiction*	w	4 25
2 00	" Peterson's Magazine	m	3 60
2 00	" Practical Farmer	w	3 25
1 00	" Press, *Republican*	w	3 00
1 50	Washington National Tribune	w	3 00

THOMAS G. NEWMAN,
925 West Madison St., Chicago, Ills.

YES, WHY NOT?

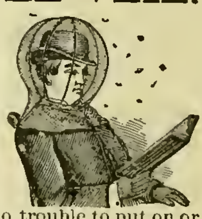
SEND me your address on a postal and receive a description of **My Improved Hook** for bottom-boards of bee-hives.

CHEAP! SIMPLE! EFFECTIVE!

Pronounced the "**best thing out.**" Sample hook for a two-cent stamp. No room to say more. Write to

HOWARD U. ACKERMAN.
1ABtf NORTH INDIANAPOLIS, IND.

A NEW BEE-VEIL.



There are five cross bars united by a rivet through their center at the top. These bars are buttoned on to studs on the neck-band. The bars are of best light spring steel; the neck-band of best hard spring brass; the cover is of handsome light material. It is very easily put together, no trouble to put on or take off, and folds compactly in a paper box 6x7 inches by one inch deep. There would be no discomfort in wearing it either day or night, and the protection against Mosquitoes, Flies, Bees, Gnats, etc., is perfect. The weight of the entire Veil being only five ounces. **Price, by Mail or Express, $1.00.**

ALFRED H. NEWMAN,
923 West Madison Street. Chicago, Ill,

THE BRITISH BEE JOURNAL
AND BEE-KEEPER'S ADVISER.

The BRITISH BEE JOURNAL is published SEMI-MONTHLY, at Seven Shillings per annum, and contains the best practical information for the time being, showing what to do, and when and how to do it. **Rev. H. R. PEEL, Editor.**
LONDON, ENGLAND.

WEEKLY EDITION
OF THE
AMERICAN
ESTABLISHED IN 1861
OLDEST BEE PAPER IN AMERICA
BEE JOURNAL
PUBLISHED BY
THOMAS G. NEWMAN,
EDITOR AND PROPRIETOR,
925 WEST MADISON-STREET, CHICAGO, ILL.
Weekly, $2 a year; Monthly, 50 cents.

Vol. XXI. February 4, 1885, No. 5.

☞ Dr. L. James, Atlanta, Ill., had a severe stroke of paralysis on Jan. 3, which left him speechless and insensible; since which he has not spoken a word or recognized his family. Our readers are familiar with his articles, and will sympathize with him now.

☞ The Canadian *Farmer*, the official organ of the Ontario Bee-Keepers' Association, has been sold to the *Rural Canadian*, which now becomes the organ of the Association, and promises to devote two pages each month to the bee-keeping interests.

☞ Professor Lazenby will lecture on the "Natural History of the Honey Bee" at the Ohio Bee-Keepers' Convention, at Columbus, Ohio, on Feb. 17. It will be a treat to all those who can attend.

☞ As a means of recognition, bee-keepers going to New Orleans should wear Badges. It will help to make acquaintances, and add much pleasure to the trip. We have made a lot, having, besides the gold bee, the words "New Orleans Bee-Keepers' Congress" in large gold letters. Price 10 cents; also some with a rosette and gold fringe, price 50 cents.

FRUIT GROWING.—We have received a copy of an illustrated pamphlet of 64 pages, entitled "How to Propagate and Grow Fruit," by Chas. A. Green, editor of the *Fruit Grower*, Rochester, N. Y. Price 50 cents. To any one sending us a new subscriber for the Weekly or 4 for the Monthly, besides his renewal for either edition, we will present a copy of this book.

Distribution of the Sense of Taste.

Grant Allen, in the *Popular Science Monthly* for February, gives the following particulars concerning the sense of taste and its distribution on distinct regions of the human tongue:

> Taste, however, is not equally distributed over the whole surface of the tongue alike. There are three distinct regions or tracts, each of which has to perform its own special office and function. The tip of the tongue is concerned mainly with pungent and acrid tastes; the middle portion is sensitive chiefly to sweets and bitters; while the back or lower portion confines itself almost entirely to the flavors of roast meats, butter, oils, and other rich or fatty substances.
>
> There are very good reasons for this subdivision of faculties in the tongue, the object being, as it were, to make each piece of food undergo three separate examinations (like "smalls," "mods" and "greats" at Oxford), which must be successively passed before it is admitted into full participation in the human economy.
>
> The first examination, as we shall shortly see, gets rid at once of substances which would be actively and immediately destructive to the very tissues of the mouth and body; the second discriminates between poisonous and chemically harmless food-stuffs; and the third merely decides the minor question whether the particular food is likely to prove then and there wholesome or indigestible to the particular person.
>
> The sense of taste proceeds, in fact, upon the principle of gradual selection and elimination; it refuses first what is positively destructive, next what is more remotely deleterious, and finally what is only undesirable or over-luscious.

This accounts, perhaps, for the fact that some, though they enjoy the eating of honey in the comb, do not like to eat that which is extracted from the comb.

Honey in the comb is taken by the teeth and masticated—the tip of the tongue getting the full benefit of the *delicious* morsel, passing it to the second region, which is so sensitive to *sweets*, and thoroughly enjoyed, and then given to the latter region where its *richness* is fully appreciated, and it is then sent on its mission to build up wasted tissues, and nourish the entire system.

On the other hand, honey not in the comb must be taken up by a spoon and is placed at once on the centre of the tongue, escaping the teeth and tip of the tongue, which is the most sensitive portion of this extremely sensitive organ, and to some this precludes the "great wealth of pleasure" which attends the mastication of honey in the comb. Solomon anciently mentioned something that was "sweeter than honey, or the honey comb." This great sage, who also said, "My son, eat thou honey, because it is good," well knew the ineffable pleasure of eating honey and masticating the honey comb, for his land (Palestine) was said to "flow with milk and *honey*," which was not only extensively used by all the inhabitants, but also employed in the temple services.

☞ From an exchange we learn that a farmer in Wisconsin, who evidently does not understand the proprietory rights of those who own birds, winged insects, etc., proposes to sue a neighbor, who keeps bees, for damages done by them. The farmer claims that the bees trouble his sheep and other stock and prevent them from feeding on the clover pastures; also, that the honey belongs to him, and that the bees are tresspassers on his farm, and furthermore, injure his other farm products. As the honey would be wasted by evaporation, or consumed by other honey-loving insects, if not gathered by the bees, he should keep bees himself in order to satisfy his *selfishness*. But in that case, his bees might trespass on the property of others, if his position be true; for the bees know no human law, and will work on sweets wherever they can be found, no matter who owns the title deeds to the soil. Such *selfishness* is pitiable.

☞ These are some hints for the times that are given by Mr. F. L. Dougherty in the *Indiana Farmer:*

> Those who would be successful with bees must always be ready in the proper season to attend to their necessary wants. The neglectful, heedless and indolent are as sure to make a failure in this business as in any other calling. No person should ever expect to be successful with bees who is not willing to give the subject at least a reasonable amount of time and careful study. Lovers of nature and those who have a fondness for these little marvels of industry are sure to be the most successful. There are many people who own a few colonies of bees that seldom, if ever, realize any thing from them in the way of pleasure or profit, yet with a little exertion and study they could be made to yield both.
>
> There can be no more profitable way for bee-keepers to pass these long winter evenings than by reading up on the subject of bees. While practical knowledge is the most potent necessity for anything like success, it is also very necessary that we keep in our minds the success or failure at the attempts for advancement made by our brother bee-keepers.

QUERIES

WITH

REPLIES by Prominent Apiarists.

Feeding Bees Kept on Shares.

Query No. 7.—What is the custom, where honey is fed to the bees in the spring for stimulating purposes or to prevent starving, when the apiary is run on shares—Who furnishes the feed ?—New Smyrna, Fla.

G. W. Demaree replies as follows: "After the bees have been wintered, such party should share the expenses of extra feeding, in proportion to their respective interests."

W. Z. Hutchinson replies thus: "The one who is to bear the expenses of the apiary should pay for the feed. Feeding is an expense just the same as comb foundation."

Dr. G. L. Tinker answers: "The bee-keeper who shares equally in the profits with the owner of the bees should furnish half."

J. E. Pond, Jr., responds thus: "I do not know that there is any custom. I should suppose, however, that all expenses of the kind should be borne equally."

Prof. A. J. Cook says: "It would seem that both parties should share it equally."

Dr. J. P. H. Brown answers thus: "That depends upon the agreement. The usual custom is to share expenses and losses equally."

Messrs. Dadant & Son reply as follows: "If the bees were kept on shares during the previous season, and the apiarist did not save honey enough to carry them to the next crop, it is his fault, and he should bear the loss; but if there was not honey enough harvested to carry them through, or if he has just taken charge of them, the feed should be furnished by the owner of the bees."

James Heddon answers as follows: "I should say that the furnishing of such food should be shared by the lessee and leaser in the same proportion that the surplus honey and increase of colonies are to be divided."

Dampness in Bee Repositories.

Query, No. 8.—I looked into my bee-house the other day and discovered that the water had soaked into it so that the sawdust on the floor was saturated, and was commencing to mold. A post in the centre was quite wet, caused by the dampness. My bees are very quiet, and apparently doing well. Would it be better to leave them where they are while they are quiet, or to move them into the cellar, which is drier than the bee-house, but not as dry as it ought to be ?—Lyndhurst, Ont.

James Heddon says: "I should leave them just where they are, 'letting well enough alone.'"

Prof. A. J Cook replies as follows: "Leave them where they are. So long as they are quiet, they are all right."

G. M. Doolittle remarks thus: "I have never been able to discover that such dampness as is spoken of, made any difference with the bees; but where hives are saturated, I believe it to be injurious. As long as the bees are quiet, I should leave them where they are."

Dr. C. C. Miller advises to "Either leave them where they are, so long as they do well, or try a few in the cellar to see which do the best."

W. Z. Hutchinson answers thus: "Let the bees alone where they are."

J. E. Pond, Jr., remarks thus: "Under the circumstances stated, I can see no reason for making any change, and should leave the bees alone just where they are. So long as they are quiet, they should be allowed to remain so, and not be disturbed until they show some signs of inquietude. Many colonies have been ruined by too much fussing with, when they were all right if let severely alone."

Vegetable Cellars for Bees.

Query, No. 9.—Is my cellar a suitable one for wintering bees in ? It is frost proof, with hard, dry earthen floor ; it has ventilation from the bottom by means of a chimney with an east and west window, and is under the dining room. In the winter there are usually from 10 to 20 barrels of apples stored in it. Are they injurious to the bees ?—Woodstock, Ont.

W. Z. Hutchinson replies thus: "I should consider the cellar suitable for wintering bees, and the presence of the apples no objection. For several years I have kept bees in the cellar under my kitchen. In this cellar are kept potatoes, apples, cabbages, and other family vegetables, and the cellar is visited daily. During some winters all of the bees have wintered well, while during others, nearly all have died. Those having sugar stores have always lived."

G. M. Doolittle says: "I consider vegetables in no way injurious to bees when in the same cellar."

James Heddon remarks thus: "You will find by experiment that when the conditions within the hives are right, your cellar will winter your bees all O K ; but when such internal conditions are not right, the cellar will prove a failure."

Messrs. Dadant & Son say: "We would judge that that cellar is a very good one."

Prof. A. J. Cook replies as follows: "The cellar is a good one, and the apples will do no harm, as long as the cellar is kept sweet."

Dr. G. L. Tinker says: "The cellar is no doubt a suitable one. As the apples would do no harm, the only question about it would be as to the ventilation. The long, underground drains are expensive, and I do not think them at all necessary to the successful ventilation of bee-cellars. No special ventilation is needed for a few colonies in a cellar; but 100 colonies or more develop considerable heat. If the cellar is well banked, as every cellar far north should be, a single air-shaft extending from near the bottom of the cellar upward 15 feet high will cause enough air to enter to supply from one to two hundred colonies of bees. If more air is required at any time, place an oil-lamp in the shaft."

Dr. C. C. Miller answers thus: "I should think that it might be an excellent cellar for bees; but I would find out by trying only a few, if other modes of wintering had been successful. If a cellar is well ventilated, apples will not make much, if any, difference."

Management of a Large Apiary.

Query, No. 10.—What is the best plan of management for a large apiary that has to be kept in several localities ?—Huron Co., O.

James Heddon says: "I cannot do this question any justice, even so far as I have matured thoughts and experience with the subject, in the space which I have a right to use here. It will vary much with different localities."

Dr. C. C. Miller remarks as follows: "This question is so comprehensive that it would take several numbers of the Bee Journal to contain the answer. I have done some hard studying on it, and would pay a good price for an infallible answer."

Messrs. Dadant & Son answer as follows: "We have kept bees in from 2 to 6 locations for 14 years past, the total number of colonies ranging from 150 to 550. We think that it is hardly advisable to keep more than 100 colonies in any one place, and that about 80 is a good number; this being the number that one practical apiarist with one boy can overhaul in one day for ordinary overseeing. One man can easily take care of 5 to 7 apiaries if he has everything in readiness, and has not to attend to the harvesting of swarms. We think, however, that the production of comb honey, requiring more pains and care, will require more time than the production of extracted honey. We have not tried it exclusively for a number of years on any of our apiaries, being satisfied by past experience that it would not pay so well, especially as large apiaries make the prevention of swarming a matter of necessity, and it cannot be successful when producing comb honey.

☞ By reference to an advertisement on page 77, it will be seen that a stock company has been formed in Eastern Ohio, to manufacture bee-hives, sections, etc., on a large scale. The incorporators are some of the *solid* men of the town, including Mr. R. L. Shoemaker, who has for years done a successful business in bee-keepers' supplies. We are informed that nearly one-third of the stock is already sold, and those wishing a good investment will not be slow in securing the balance.

CORRESPONDENCE

For the American Bee Journal.

Does a Colony of Bees ever Freeze?

G. M. DOOLITTLE, (40—80).

A few days ago a friend called in to have a neighborly chat, and as we talked of the recent severely cold weather (the coldest known here for over 15 years, the mercury being 28° below zero), he asked, "Have not some of your colonies of bees frozen to death?" I replied that "I thought not, as I never knew a colony of bees, while in a normal condition, to freeze during any cold weather ever experienced south of latitude 45; but," said I, "we will go out and look, for possibly some of my little colonies may have succumbed to the extreme cold."

Purposely I had prepared several queen-rearing colonies for winter, by way of experiment, some being so small that last November they did not contain a common bowl full of bees, and occupied but two spaces between the combs, while others were seen in only three spaces. A part of these were placed in the cellar, and the rest left on the summer stands. Upon going to the bee-yard, we first looked at a full colony, which we found to be in splendid condition, the bees being all clustered in seven spaces between the combs, and so quiet that scarcely a bee moved, although the mercury at this time stood at 35° above zero. Upon raising the hive from the bottom-board, not over 20 dead bees were to be seen, which proved conclusively, to me at least, that those bees were wintering in the best possible condition thus far, in spite of the extreme cold. Next, we went to a colony which occupied but four spaces, and found them in as perfect condition as the first, although a practical bee-keeper had told me, but two weeks previous, that I could never winter so small a cluster.

We now went to one of the smallest which had so contracted its cluster during the extreme cold, that they could be said to occupy scarcely more than one space between the combs, for there was not more than 100 bees except in the one space; yet this small cluster was perfectly quiet and gave no sign of bee-diarrhea. Upon raising the hive from the bottom-board, about 100 dead bees were found which showed that the constant struggle with the cold had caused more bees, in proportion, to die of old age, out of this little cluster than had died from the others; still the greater part of them being alive was sufficient to prove to my friend that bees would never freeze in this latitude while the cluster was in a normal condition.

Our wintering trouble is not caused by bees freezing, but it is caused by the bees getting in an abnormal condition from many of the various causes brought about by long continued cool or cold weather. Let me describe (or re-write what I find in an old diary of mine) my observation of bees during a year when all wintered successfully: "As fall approaches, if we examine a colony of bees we will find that the activity manifested during the spring and summer in the interior of the hive, becomes less and less, so that by the middle of October, in this latitude, all brood-rearing has ceased and the bees have become partially dormant; still, so far, they have not packed themselves away in a snug cluster, or compact shape for winter. Every opportunity given by a warm day is improved to void the fæces, so the bees may be prepared for a long, cold spell when such a one occurs. As the weather grows colder, the bees contract their cluster, many packing themselves away in the cells till the smallest possible space is occupied by them, and thus the requisite warmth is secured to keep them alive when the mercury sinks below zero.

"In this contraction of the bees (at certain times) many of them are left singly or in little clusters of from five to ten, which do not recede with the main cluster, and thus are chilled where they are, and if the weather becomes cold enough, they may be frozen, thus losing to the cluster that number of bees. The reason for this formerly given was, that owing to the movable frame no cross-sticks were used, as was the case with box-hives, and hence the bees left no holes in the centre of the combs as they did around the cross-sticks, thus compelling the bees to pass over and around combs of cold honey to keep pace with the receding cluster, instead of passing through the centre of the combs to the next range, which was more nearly filled with bees. In thus passing around, many become stiffened and caught by the cold, which might have been saved if holes were provided in the centre of the combs for them to pass through. To this end the Langstroth frame and others were provided with a shaving bent to form a circle an inch in diameter, which was suspended from the top-bar by means of a little strip of tin, supposing that this would effectually secure a passage-way for the bees. However, but a short time elapsed before it became apparent that during a good yield of honey this shaving would be filled with comb and honey, and hence the passage-way was cut off. Next, the practice of cutting holes through the combs, each fall, by various means, was resorted to only to be filled up the following summer, when, as winter approached, the process had to be repeated again.

"After trying all these plans, it became apparent to me that the reason assigned as the cause of the death of the bees was not the real trouble, for bees would stay and die within ½ of an inch of these holes, when it would appear they could have passed through these passages just as well as not. I also discovered that when the weather was cool, cloudy and rainy for several weeks before it came severely cold, that this loss was apparently much greater than when a clear, warm day occurred immediately before a severe cold spell. By the numbers of bees that were found on boards and such places, dull and stupid after such a fine day, I concluded that these were the same bees that would have died by not following the cluster, had not a warm day occurred for them to leave the hive to die; hence, I say that the loss was apparently greater when no such day occurred, for many more bees were seen outside of the cluster dead, as they had no chance to get out of the hive to die.

"From several years' experience in this matter, I see no reason for changing the conclusion thus formed. After the bees once get thoroughly clustered, I do not see this loss occurring after a warm spell, as some claim they do, nor but little after a mild fall like the past has been. After being fully settled for winter, and this loss of old bees has passed away, a colony will lose but few bees for six weeks or two months, and will remain quiet. If at this time a warm day occurs so they can fly freely, they again cluster back quietly, and remain so about the same length of time, when they again desire to fly, and if such a chance occurs, all will go well, and the bees winter well. Thus we have a colony in a normal condition, and all the cold ever obtained in any portion of the world where bees can be kept with profit, (occurring during this period between their flights), will not freeze or materially injure them if they have plenty of stores within easy access."

Although several years have passed since the above was written, I have seen nothing to change my mind on this subject, and still believe that if bees can have a good flight once in six weeks, extremely cold freezing weather between these flights cannot harm them; and that belief is strengthened still more by the bees passing safely through the late, extremely cold weather. Bees had a splendid "fly" on Dec. 31, 1884, at which time no trace of bee-diarrhea could be seen, as none of the bees spotted the hives or snow.

Borodino,⊙ N. Y.

For the American Bee Journal.

Registering Colonies, etc.

10—JOHN REY, (35—56).

I notice on page 22, that Mr. Fradenburg describes his plan for registering colonies, and I think that it is a good one for correct work. I will give the plan that I have used for 3 years, and which I am so used to that I do not think that I will change, although I think that Mr. Fradenburg's is a better plan.

I take a piece of soft, white chalk which will wash off of the wood, and number the hives in front, beginning with 1, and on the backs of them I keep my register. The first thing that I do in the spring, when the bees begin to carry in pollen, and it is warm enough to open the hives, is to examine them, and if I find them strong, I mark on the backs of the lower stories, an S, which means strong; if I find them medium, an M; and if weak, a W. Those which need feeding, I mark with an F; if queenless, an X; and the colonies having good laying queens are marked O K.

Now, I can walk at the rear of the hives and see at a glance in what condition each colony was at the last examination. I also mark the date on every hive when I get through examining it. For instance, I opened a hive on May 1, and marked it 5, 1, 1884; in this way I can always tell when I last examined it. For the surplus arrangements I keep an account on the caps or second story of my 2-story Langstroth hives. I get the bees to work in the one-pound sections, in the lower story, by placing one wide-frame holding eight one-pound sections on each side of the brood-nest, and when the bees are nicely to work in them, I remove them to the second story and fill in their place with empty combs. I never spread the brood-frames.

For the second story I place in these two wide-frames with sections and bees working in them, right in the centre, and fill in the sides with wide-frames with sections, or if for extracting, I fill in empty combs and mark on the back of the second story, 2, 1, 3, and the date, meaning two wide frames with one pound sections, and the 3 means extracting. If I fill in all combs for extracting, I mark it 3, and all wide-frames with sections, I mark it 7, 1.

Now as to hives with caps: On some I put one-pound sections, and some, two-pound sections. I put on one row, then another, and so on just as fast as the bees can work in them. Suppose I put on one row of two-pound sections, I mark on the back of the cap 1x2, and if two rows of two-pound sections, 11x2, and so on till I get the cap full. Remember I always mark on the date so that I can always tell how the surplus arrangements are inside of the hive without opening.

When I take off any honey, I always note it down in a book which I carry with me. I use one page for each hive, and keep an account of the amount of honey taken therefrom. In this way I can always tell how much honey each colony produces. When I take off honey I take out only the full capped sections. I simply pull back the duck and see where the full ones are, take them out, and replace them with sections filled with comb foundation; and in the fall, when the honey season is over, I take off all the sections and put on the honey-board. My honey-boards are 4½ inches in width, and as long as the brood-chamber is wide. In the spring I take off only one honey-board, put on one row of sections, and put duck on the sections and the honey-board on top of the duck; this will keep in the heat more, and the bees need it.

The account of swarming I keep on the same page as the honey account. When a colony swarms, I mark it on the lower story. Suppose that a swarm issues from hive No. 13, on July 2, and I put it in hive No. 19; I then mark on the lower story with chalk, on hive No. 13, Sw. 7, 2, '84x19; and on hive No. 19, I mark 7, 2, '84, 13, and so on with every colony that swarms. In this way I can keep a strict account of every swarm, where they came from and where they were put. If I am away from home at swarming time, and any swarms come out, my wife hives them and always puts down the numbers of the colonies that swarmed; and when I get home it is an easy matter to put it down in my book and mark the hives.

I can always keep account of the queens, their age, what hive they came from, and into what hive they were put. In this way I can always tell at a glance, when I walk at the rear of my hives, how the bees are, without opening the hives. I do not like to open them any oftener than is really necessary. I always carry with me a basin of water, and a sponge, when I am taking off honey or working around the hives. With the sponge I can easily erase the chalk-marks and put on others. I always save the propolis when scraping the old hives and cleaning sections or honey-boards, or any thing that has propolis on it, and put it on a board, and it is amusing to see the bees fix it on their legs and carry it to their hives.

East Saginaw,⊙ Mich.

For the American Bee Journal.

Storing the Honey Crop, etc.

F. WILCOX, (115—165).

Some of my honey which was stored in a chamber over the work-shop, froze during the first cold weather so that the combs of about 1,000 sections cracked, thus causing them to leak so as to damage them. Next season I shall prepare a store-room over a kitchen with a chimney through it. I think that artificial heat is useful to perfect the curing or ripening of honey in the fall, and also prevents its freezing in winter.

I believe that it is a mistake to overstock the honey market in large cities. Our markets here are governed to a great extent by Chicago quotations. I also believe that the honey can be better stored by bee-keepers until it is wanted by the trade. When I was in Chicago I saw considerable honey in the hands of commission men, which was injured by improper storage. It had been placed near the door (inside or outside) in damp or rainy weather, until it had absorbed moisture, causing the honey to present a dark and sweating appearance which not only injures the looks but the quality of the honey.

The marketing of honey is by far the most important branch of the business just now; and unless we can increase the consumption of honey by keeping the small towns supplied with good honey, or by some other means, we shall soon be mired in our own delicious productions, and wish ourselves established in some other business.

My crop for 1884 was 6,500 lbs. of comb honey, or about 56 lbs. per colony, spring count, which is about the average for this locality.

I am much interested in the discussions in the BEE JOURNAL. I have read it closely for about eight years. There is one feature about the BEE JOURNAL which renders it greatly superior to the agricultural papers, or papers devoted to other special pursuits, and that is, its contributions are from men who have a practical knowledge of what they are writing about. Of course, opinions and experiences differ in many things and always will, but this only stimulates thought and closer observations, and in the end, benefits the intelligent reader.

Mauston, ⊙ Wis.

For the American Bee Journal.

"The Langstroth Bee-Spaces."

W. Z. HUTCHINSON, (68—94).

That bees will build brace-combs between the top-bars of the brood-frames and a honey-board placed bee-space above them, no one will dispute; were it otherwise, honey-boards would be of no use, unless they were made queen-excluding; but, according to my experience, Dr. Tinker, on page 10, greatly exaggerates the extent to which these brace-combs are built.

If the Doctor should visit my apiary, he would see that the brood-frames could be removed nearly as easily as though no brace-combs were built above them; in fact, there is so little trouble from this source that I never even thought about it until reading his article. I do not have the bee-space ⅜ nor ½ of an inch, it is 5-16, and there is no trouble in keeping it exactly that size. The Doctor mentions the "changes liable to take place in the material." How much "change" will take place in a painted piece of pine less than ¾ of an inch in width? Not much.

He speaks of the great amount of time needed to cut and clean away these brace-combs. But we do not cut them away; what would be the use? The bees would build more. There is another thing which we do not do, and that is, open the hives and pull out the brood-frames every time we go into the apiary. When it is time to put on boxes, a honey-board is put on, and then the boxes, and it makes no difference how many times the boxes are taken off and changed about, the honey-board is on to stay, and usually is not disturbed until the end of the season. This idea of pulling the brood apartment to pieces every few days is perfect nonsense. What is the use of it?

He also speaks of the many bits of comb that have to be cut away in tiering-up section-cases. When the bee-spaces are not more than 5-16 of an inch wide, there is no building of brace-combs, as a two-years' experience with hundreds of cases in my yard abundantly proves.

That the black bees will enter the sections more readily, I do not dispute; but hundreds of instances have proved that Italians will store just as much honey in sections above a honey-board as though the honey-board were not there.

In this locality bees do not propolize smooth surfaces unless they are in contact, and other similar localities are quite numerous; hence, the nearer sections can be aerially suspended the less they are proplized. When one tier of sections comes in contact with another tier, the lines of contact are increased.

At last we are getting down to solid facts; we know, now, how continuous-passage-way cases are manipulated; it is with the aid of wedges, chisels, brush-brooms, lots of peeping between the cases, and "some practice."

He says that it takes about 2 minutes to put an additional case upon his hive. It takes us about 10 seconds to perform the same operation with the Heddon case, and we have no use for wedges, nor brush-brooms; there is no peeping between cases, and no bees killed.

Rogersville,☌ Mich.

For the American Bee Journal.

The Weather and Bees in Texas.

20—B. F. CARROLL, (50—115),

We are having some winter "down South" now. The mercury reached 9° Fahr. on Jan. 15, and the ground has been covered with snow ever since. A 3-inch fall of snow occurred last night. Our bees freeze badly during these cold spells, for occasionally the mercury will go up to 56°, and even 65° Fahr., and the bees begin to clear out the dead and to clean up, when all at once the wind changes to the north and the thermometer falls in a few hours to the freezing point, sometimes away below, while the bees are scattered all through the hive, and many bees freeze before they can get to the cluster. My bees will be very weak when spring opens, on this account. If I were running my apiary for honey alone, I could not object to my bees being weak early in the spring, as it would take less feed. I begin to stimulate them and get the queens down to real business by April 15, and by June 1 my hives are all full of bees, just in time for the horse-mint. This should be the aim of all bee-keepers who desire to make the most from their bees; to know from what source their surplus honey comes, and about what time, and then work so as to have the hives full of bees just at that time; if the weather is all right and the flowers do their part, the honey crop is a certainty.

After four years of handling the Cyprian bees, I have concluded that when "Count Kolowrah-Krakovsky, Chancellor Cori, Hilbert, Stahala and Gravenhorst inscribed upon their banners, 'Cyprian bees everywhere,'" they knew what they were doing. I am satisfied that they are the best honey-gatherers in America, but not the gentlest bees, and hence will keep none but Cyprians in my home bee-yard. I think that by breeding the best behaved ones every year, that in five years I can have Cyprians as gentle as the Italians. Our prospects are good for a big honey crop this year, as the ground is a green mass of young horse-mint. I never saw a better stand of it. I live 200 miles north of Austin.

Dresden,☌ Texas, Jan. 20, 1885.

Homestead.

Elements of Success in the Apiary.

EUGENE SECOR.

Success, in any undertaking, does not always depend on brains. If it were so, only those who possessed the power of mind to master difficult problems at a glance, would ever succeed, while those with only mediocre talents must always lag behind, if not ignominiously fail.

Many suppose that success and brains are synonymous terms. On the contrary, the persistent toiler whose vocabulary does not contain the word fail, will often out-strip, in the race of life, the brilliant, brainy young man who expects to jump to the forefront at a bound. Brains is a good thing to have, nevertheless, no one is hardly ever overstocked with it; but the will is the motive power which drives the engine successfully.

Successful bee-keeping, like a great many other things, depends not so much upon the supposed innate ability, theoretical education, or on the capital brought into the business, as upon that quality of mind which is never weary of going into details of a subject, nor discouraged by slow advancement. In this respect it is like many another avocation. The merchant who cares more to gratify his love of ease, than to follow out the daily routine behind the counter or at his desk, will hardly be the Stewart of his time. The lawyer, no matter what his natural abilities may be, who enjoys boon companions and the card table better than the dry details and persistent work of searching the legal authorities when he has an important case in court, will probably never rank with Rufus Choate or Wm. M. Evarts as an attorney. And the bee-keeper who puts his swarms in hollow logs or soap-boxes to avoid labor, or who allows the moths to destroy them for want of a little attention, and "brimstones" them in the fall to get the honey, rather than to exert himself by providing them with the proper auxiliaries toward getting the surplus in the handsomest and most marketable shape, will never be a Langstroth nor a Quinby in the science, nor a Hetherington in the amount of money he will gain through the labors of the "busy bee."

The prime object in bee-keeping is to make money. Dollars and cents is the only criterion by which the practical Yankee will judge of the merits of any business. Any other view of it interests only the student in natural history, or the amateur who wants to do something to kill time, or to give play to his natural genius for labor. So we affirm that if the business does not pay, the bee-keeper does not succeed. The ardor of the most enthusiastic beginner will soon abate, unless he hears the chink of the ducats in the tiller.

Whether one colony or a thousand be kept, each one must be made to pay a fair rate of interest on the investment.

As before hinted, no lazy person need ever expect to succeed with bees. The idea that we can sit idly by and get rich, while this pattern of industry does all the work, is a delusion and a snare. No one ever did or ever will succeed at the business, who looks upon it as a scheme to make money without labor. If one looks upon the labor question as the Irishman did who said that he had nothing to do but to carry the brick and mortar up four flights of stairs, and there were men enough up there to do all the work, it is very likely that one will succeed. The bees are "the men up stairs to do all the work," but they must have the "brick and mortar" brought to them, or, in other words, everything provided that is necessary—in the way of modern implements. The apiarist must possess skill and energy enough to adopt and apply modern methods. Bee-keeping is no sinecure.

The location of an apiary is of the very highest importance. Where no honey-plants abound, or where the field is already overstocked, of course there must be disappointment or failure. But simply because a person happens to live in a locality luxuriant in flowers and abounding in fragrance, is no reason why he should assume to act as custodian of the wealth of the honey-bee. The tramp who sleeps night after night by some hay-stack, with the starry heavens above him, and the grand spectacle of the vaulted canopy continually before his eyes, is not, therefore, necessarily qualified to write a dissertation on astronomy. Unless the bee-keeper possesses the other qualifications needed, all the aroma from the garden of the gods will not make bee-keeping pay.

A little knowledge of the natural history of the bee is positively necessary. In these days it will not do to look upon the mother of the colony as the "king bee," and as simply an ornament, clothed with regal authority, directing the movements of his subjects. Modern investigation and knowledge should have relegated to the shadowy past, all such superstitious notions of the box-hive age. It is desirable, if we wish to compete with the honey-producers of to-day, to understand at least a little of the science. When the 650 horse-power Corliss engine that was to run the acres of machinery at the World's Fair was started, it needed only the hand of a child to pull the lever; and, although the child knew nothing of the power of mechanism of the ponderous giant, it moved off with the same quiet precision as if the master mechanic had held the throttle-valve. But in directing the movements of the little apiary, it needs the hand of the master all the time. They cannot be trusted to unskilled fingers.

To be successful in this industry, requires not only a knowledge of the business combined with good judgment, but an interest bordering on enthusiasm. One who thinks bees, talks bees, dreams bees, who never tires of the study, who anticipates their wants, who does the right thing at the right time, will usually find the employment not only fascinating, but reasonably remunerative.

I close with a quotation from the honored Langstroth: "There will never be a 'royal road' to profitable bee-keeping. Like all other branches of rural economy, it demands care and experience; and those who are conscious of a strong disposition to procrastinate and neglect, will do well to let bees alone, unless they hope, by their systematic industry, to reform evil habits which are well nigh incurable."

Forest City,♁ Iowa.

For the American Bee Journal.

Duty on Honey—Over-Production.

CHAS. DADANT & SON.

It seems to us that bee-keepers are becoming unnecessarily frightened at the announcement of the abolition of the tariff on Cuban honey. For an indefinite period of time Cuban honey has been imported, not only in the United States, but in all parts of Europe. Some 20 years ago Cuban honey was already quoted on American markets at 60 to 85 cents per gallon, while the home product was worth from 12 to 25 cents per pound. America now produces honey in such quantities that it is quoted in St. Louis at 5 to 6 cents per pound, or 55 to 65 cents per gallon; and in San Francisco at 3½ to 5 cents per pound, or 38 to 55 cents per gallon. Can Cuba beat that?

In the course of five years or less the Panama and Nicaragua canals will permit California to bring her honey to New York City for less price than it is now alleged that Cuban honey will sell for, free of duty. Are bee-keepers then going to put a duty on California honey in New York harbor? Do they think that they can prevent Louisiana and Texas honey from being produced in such quantities as not to flood the markets as badly as Cuban honey, and at equal prices?

Nay; let honey be as plentiful as it may, the choice honey of the North and Middle States will always bring a price as high as the very best of sweets, because it is one of the best of sweets. When the duty is removed from Cuban honey, it may cause a temporary rush for this article; this will only tend to make the home consumption more liberal, and our consumers will soon learn that there is just as cheap honey in the United States as in Cuba.

Some bee-keepers write about over-production. Do they mean to say that there is more honey produced than can be consumed? Mistake! There is not one twentieth, not a hundredth part of the honey produced that could be consumed. When honey can be found by the barrel in every wholesale grocery, and when farmers will buy a keg of honey as they now buy a keg of sorghum, then we may begin to call honey a staple. Instead of "crying over spilt milk," let us try to increase the consumption. Let us work, each of us, as Mr. Muth does in Cincinnati, and as Mr. Todd does in Philadelphia; let us sell the cheap Southern honey to the tobacco manufacturers, the liquor dealers, the bakers and the confectioners, and let us show the people at large that good honey is just as good as butter, and cheaper.

If each country were to follow the example of America, or rather the ideas of some, and put high duties on honey, then California would have to throw all of her honey on the United States markets, and we could not read such items as the following:

"San Francisco: A vessel with about 1,000 crates and 300 barrels of honey sailed for Liverpool this week."

Hamilton,+○ Ills.

For the American Bee Journal.

Filling Frames with Foundation.

W. M. WOODWARD.

Much trouble appears to be experienced by some bee-keepers to get frames and sections built and filled clear down to the bottom-bars. I think that I have discovered the cause, and will give a remedy, or rather a preventive.

Bees are prone to use the bottom-bars of both sections and frames as a floor, and leave a bee-space for themselves to travel in. Some three or four years since, I discovered that they would build comb down and attach it to the bottom-bar if it was turned up edgewise, leaving a wide opening and a small space closed beneath by the frame. When I began to use comb foundation, I followed directions and allowed a little space at the bottom for swelling and sagging. The bees, I found, always took advantage of this arrangement and left spaces at the sides and bottom to pass across the combs instead of passing across below the bars. When I began to wire the frames I also cut the foundation the full size of the frame inside, by laying a frame upon every sheet and cutting close all around, but a little under at the top, thus leaving the foundation a little wider. I now turn down one row of cells and lay it in the frame upon the wires, and with a stiff, square-ended knife like a shoemaker's trimming knife, I firmly press the wax to the top-bar. This leaves the bottom a loose fit, but less than ⅛-inch space below the foundation, and the bees cannot pass through.

It is well also to make the bottom-bar narrow, say ½ or ⅝ of an inch wide. This will sometimes save their cutting the foundation away below to get through. The best precaution, however, is the use of but few frames at first with swarms; and I introduce but few together in old colonies, and then always between combs well built down. Since I have hived my bees on but three frames, and use full sheets of foundation closely fitted and pressed on wire, I have no trouble to get every comb built clear down, and brood in even the bottom row of cells to the very corners. By a further use of wide-frames, I keep the brood-chamber adjusted to the capacity of the queen—I mean her present want of space—and never have any honey stored in the tops of the frames at all. My experience proves that Prof. Cook is mistaken in his opinion that bees always place "a little" honey in the tops of the frames, as he is quoted in a late number of the BEE JOURNAL. I could have shown him 200 or 300 frames last season, and say 25 hives, where not a drop of honey could be found in any frame until September.

I have used the plan mentioned by Mr. Rey, of fastening both top and bottom of full sheets of foundation in sections, with my whole crop during the past season. With proper care it will be a success every time. It should be put on with a fastener like the Parker foundation fastener, which fastener should be made as wide as will work easily in the section, so as to fasten a whole end at once. Then keep the foundation as warm as it can be easily handled, when it has been cut to fit loosely to the sides, and about ¼ of an inch longer than the inside of the section up and down. To fasten it, place the bottom of the section on the fastener and lay the sheet down upon it just so as to catch enough to fasten as usual. Now raise the section and reverse by such a motion as will cause the sheet to drop and hang nearly in its place in the section, and by placing it again in the fastener, with the lever slightly raised, it will easily come exactly to the spot to fasten. See that the lever draws it just a little, as it is fastened the last time, and one will soon be able to do a good job. The main point is to stretch the foundation straight all over, and to fasten it when warm, which will prevent any harmful swell or sag in it. The bees will immediately fasten the sides, and all is safe. I have several hundred sections on hand now, in which the foundation is nicely fastened all around, although not yet drawn out into comb.

The plan of organizing a bee-keepers protective association, as proposed by Mr. Kendall, would be a grand thing, in my opinion, if made comprehensive enough to cover the condition and marketable shape of honey so as to secure uniformity of style and price of our honey, and drive all "mush honey," etc., out of the market with adulterations; and also to establish something like a uniform rate of profit by retailers. Here, they charge 5 cents per pound profit, while I have known it, or at least have heard upon good authority, of its being handled for 1 cent per pound. I do not know what is the usual rate, the country over, but I do know that I can care for and weigh out honey for less than one-third of the price that I can afford to produce it.

Custer, ♂ Ills.

For the American Bee Journal.

How to Market Honey.

W. C. NUTT, (80—125).

As bee-men in general seem to understand the production of honey better than the marketing of it, perhaps it will not be out of place to give some of my experience in disposing of my crop of honey, which I have found to be quite a success. I have two prices for it, one I call my wholesale price—for 25 lbs. or more—the other retail—for less than 25 lbs.

I discovered the advantage of selling honey in this way two years ago when I had what seemed to me a larger quantity of extracted honey than I cared to dispose of in little dribs. Then I was selling honey at 15 cts. per lb., whether 5 or 50 lbs. were taken. I would generally sell about 5 lbs. to each person, and when he had used that amount, I would have to take him 5 lbs. more. I changed my method and began to sell 25 lbs. or more at 12½ cts. per lb., when, lo, the scene was changed; the 5 lb. customer disappeared almost entirely, and the 25 or 50 lb. customer appeared upon the scene. I found much less trouble in disposing of my honey, and at a fair price. I now sell it at 10 and 12 cts. a lb., but follow the same method of disposition, which has proven entirely satisfactory with me. A lady recently told me that she wanted 15 lbs. of honey (expecting, of course, to get it at 10 cts. per lb.); I told her that if she did not take 25 lbs., it would be 12 cts. a lb., when she said, "If it is nice honey, bring me 25 lbs." One must have a first-class article of honey and let people know that there is no difference, as to quality, between the honey at 10 cents per lb. and that at 12 cents. The secret is this: Some people will take what they want at once anyhow, but the greater part will take as little as they can conveniently get at one time, if there is no inducement held out for them to take a quantity. By offering a small inducement they will almost invariably take the larger amount, they will naturally use it with more freedom, and will soon be ready for more.

This method saves trouble in going around, and I think that, in the end, one can sell twice the amount of honey than if it were sold at one price and letting the customer take as much or as little as he chooses. The grocerymen here sell for the same price as I do. I sell to them at my wholesale price, taking an even trade in goods or 10 per cent. off for cash. I put up my honey in quart and half-gallon tin pails for the groceries, the pails holding 2½ and 5 lbs. respectively. I also put nice labels on them. I have stopped liquefying the honey for customers, but have taught them to use it in its candied form, or liquefy it themselves.

Otley, ⊙ Iowa.

For the American Bee Journal.

Bee-Lore Mixed and Muddled.

ALLEN PRINGLE.

Upon reading in the BEE JOURNAL (page 808) Mr. Joshua Bull's lament over the oblique philosophy and practical contradictions of our most modern bee-keeping, I could not repress what amounted to more than a smile. The smile, however, was not altogether at Mr. Bull's expense, for I felt much sympathy for him. He sees the apiarists, to whom he naturally looks for guidance, all *akimbo* in their practical teachings, and their philosophy "at loose ends," and he cries out in the fullness of his despair, "Whom can we believe?" For "When doctors disagree who can decide?" In trying to struggle through such a hopeless maze of contradictions, the poor novice in bee-keeping is like the strong man in a morass: "The harder he struggles the deeper he sinks." But the going through this apiarian medley of "confusion worse confounded," which we sapient sages of the quill bring forth from the cranial repositories of our varied experiences, is not without its beneficial effect to the studious and thoughtful bee-keeper so soon as he sees the interpretation thereof. When the countryman put his hand into a woodchuck's hole and soon jerked it out bitten and bleeding, he uttered a principle as well as a fact when he held the bleeding finger up exclaiming with glee, "I'm awful glad the critter bit me, for now I know that he is there!" Pleasant knowledge came to him through the physical pain and tribulation. So, finally, will the fruition of apiarian knowledge come to Mr. Bull through the tribulation of struggling through an apparently hopeless chaos of apicultural literature. It seems all "madness" to the beginner, but there is a "method in the madness," and with the proper key of generalization, order issues from the chaos.

Now, as to Mr. Bull's first difficulty, viz: Whom to believe and what to do amidst such diversity of counsel, the answer may be concisely put in one sentence, to-wit: After digesting the hash placed before you as well as may be, follow your own judgment, let your own judgment guide you according to your own special environment. One reason why you see so much divergence of opinion and contradictory advice from our leading bee-keepers, is just this: They are writing from all points of the compass, and from nearly all degrees of latitude and longitude, and hence the climate and circumstances of almost every winter are different from those of the others. Their experiences, etc., differ with, and because of, their environments. Another reason for this diversity, and for the mysterious success achieved under vastly different management, and under systems diametrically opposed to each other, is the flexibility or rather adaptability of the little insect which is the subject of all this discussion.

Another reason is this: In the wintering problem for instance (which seems to be the greatest difficulty troubling Mr. B.), one or two essential conditions of successful wintering may be present in a given case, say proper food and temperature, and one or two other conditions little less essential may be all wrong; but if the bees happen to come through all right the conditions present are generally all put down as good. Now, if we invert this instance as to the good and bad conditions a few times, we will alternately have a whole set of bad conditions strongly recommended as good; and a whole set of good conditions strongly and authoritatively condemned as bad. Mr. B. will see the point.

As an illustration of the wisdom of being guided mostly by your own judgment in your own special environment, instead of relying too much upon this authority or that, I might revert to some personal experience. Many years ago, about the time of my transition from the old system of bee-culture to the new, although I had had considerable experience in the old way, upon adopting the improved methods, I submitted myself almost wholly to the authorities—the latest and best—and was guided in wintering, etc., by them. Immediately my ill-fortune set in, and set in with a vengeance too. I did well enough in the summer manipulations, but used to lose all, or nearly all my bees in the winter. The second year, I think, under the new regime, I lost every colony—about 40. Nothing daunted, I purchased in the spring and went in again, following the authoritative wintering wiseacres more carefully than ever, but lost all again. I was greatly disgusted. However, after the lapse of a year or two, I found that I could not live properly without the hum of the bees around me, and I again invested. But this time I dumped all the authorities in a corner, and made up my mind that henceforth Allen Pringle would be my own authority in wintering bees. And so very disgusted had I become with my ill-fortune and my ill-authorities, that I never looked into a bee-paper or a bee-book for a long time, paddling my own canoe through the new system as best I could. Whatever of success or failure I met with during those years of stubborn independence one thing is certain, my bees stopped dying off in winter. Since that ill-fortune, I have steadily followed the advice of Allen Pringle in wintering, and my winter losses have been small. Not that his judgment is any better than that of others, but simply that it is better in his special circumstances and environment.

So I would advise Mr. Bull to carefully read what we all have to say about wintering, as well as other things, and then follow his own judgment. He asks: "How are we to decide whether it is best to give our bees honey or sugar for winter food, upward or downward ventilation, to place them in a cellar, in a repository, or to leave them on the summer stands?" This is all easily decided, that is, for *yourself*, as thus: If you find your bees in the fall with good honey in the hive capped over, never take it out on anybody's advice to feed sugar in its place; but if you find your bees deficient in stores, it will be perfectly safe to feed them with syrup made from No. 1 sugar, provided you do it in time for them to cap it over. As to the wintering, if you find yourself with a good cellar, by all means put all the weaker colonies into it, and leave the strongest outside, especially any that you may have in double-walled hives, otherwise you can protect those outside from severe frost, in the manner most convenient—packed with sawdust, chaff, straw, or something else. I have kept colonies in single-walled hives comfortable through the winter outside by simply keeping the snow shoveled up about them and over them, with no other protection than the second story on top filled with sawdust, and well packed. There was, of course, a free space left over the frames for the bees, and a porous cloth between that and the sawdust With regard to the other point—the much-vexed question of upward or downward ventilation, or both—each proposition is true or false, depending upon the circumstances. This may seem very paradoxical, but it is true all the same. Under ordinary circumstances, however, I think there should be upward ventilation to allow the moisture to escape that way, especially in cellar wintering; but it is equally true that a strong colony of bees with other conditions favorable, will winter well hermetically sealed at the top. Furthermore the principle is the same in both cases, as will be seen if the *rationale* is understood.

As to Mr. Bull's other difficulty: It is certain that Nature abounds in monstrosities and imperfections, and that we are continually improving upon her works and methods. And even the instinct of the bees, which Mr. B. imagines so perfect and unerring is, in fact, by no means so, which he might have observed if he has long handled them. Mr. Heddon is quite right in saying that our superior reason must come in and guide the bees' imperfect instinct. Allow me to give here one instance of imperfect instinct out of many I have noticed: Last spring a rather weak colony of bees, with a queen somewhat advanced in age, and failing in fertility, commenced to supersede the mother long before the proper time—before the snow was off, and five or six weeks before any drones appeared. When I found them out, the queen-cells were capped over, no drone-brood or eggs in the hive, and the queen was "in the dumps" in the corner. Now, even Mr. B. must admit that this premature movement was a great mistake on the part of those foolish bees, for their queen, although failing, was laying moderately—enough to keep them up till the proper time came for superseding. As they were going, guided by their instinct, they would undoubtedly have perished.

Selby, Ont.

For the American Bee Journal.

N. E. Ohio and N. W. Pa. Convention.

The Northeastern Ohio and Northwestern Pennsylvania Bee-Keepers' Association held its sixth annual meeting in the Y. M. C. A. rooms at Erie, Pa., on Jan. 14 and 15, 1885. The meeting was called to order by President Twitchel, and the roll-call was responded to by about twenty of the old members. The Secretary's report was read and accepted. Treasurer Phelps not being able to attend the convention, Mr. J. H. Woodworth, of West Williamsfield, O., was elected Treasurer *pro tem.* Thirty-three bee-keepers paid the annual membership fee. The first subject presented for discussion was, "The best method of increasing colonies."

Mr. U. E. Dodge, of Fredonia, N. Y., said that he always obtained the best results, both in honey and increase, by employing natural swarming.

Mr. D. Videto, of North East, Pa., said that only a very few bee-keepers desired increase; but for such as do want more bees, he would recommend the following plan, as it had proved successful with him: Hive the first swarms that issue, and divide the parent colonies into 2-frame nuclei (each having at least one good queen-cell) till you get the number required, then divide all remaining parent colonies which cast swarms, by adding the frames (being sure to destroy all queen-cells on these frames), one at a time, to the nuclei, until they are all built up into strong colonies, each of which will have a laying queen much earlier than if all were left to rear queens for themselves after having cast a swarm.

"How to prevent swarming where increase is not desired?"

Mr. C. A. Camp, of Painesville, O., said that he had been fairly successful by removing the queen just before a colony was ready to swarm, and let them rear a young queen which would hardly ever leave with a swarm.

Mr. Videto said that he had tried all the plans and methods that he had ever read or heard of, and had never found one yet that was successful when running the apiary for comb honey. He can suppress swarming to a certain extent by tiering up to three stories and running the apiary for extracted honey, and he would get just about enough increase to make up for loss in winter, thus keeping his number of bees good. If comb honey is what he desires, he lets his bees swarm, and then in the fall he doubles the colonies back to the number he wishes to winter.

Mr. U. E. Dodge said that the more room he can give his bees, the less swarming there would be; but as this can be done only when running for extracted honey, and as there is comparatively little demand for that kind of honey in this vicinity, he produces comb honey and lets the bees swarm.

"What shall be done with the sections which are but partly filled or capped, when taking off honey in the fall?"

The Secretary said that he extracted the honey from the unfinished sections, and sent it to the kitchen to be used in cooking, making vinegar, etc., and put the combs into the supers for the bees to clean the remaining honey from them, after which he put them away to be used the next spring, and it is surprising to see how quickly the bees will fill these combs with nice honey from fruit bloom.

Mr. B. F. Jenkins, of Willoughby, O., objected to the use of these combs, saying that they did not look as white, when filled and capped, as newly built combs. He said that he cuts the honey out of the sections and sells it in bulk to his neighbors at a low price; and leaves a wedge-shaped piece of comb adhering to the top-bar of the section, and being the same length. These sections he replaced in the supers in the spring, and he thinks that his bees fill them nearly as readily as though the whole combs had been left in.

"Is it advisable to destroy old queens and replace them with young ones?"

J. McGonnell, of Waterford, Pa., thought that it was better not to allow a queen to become over three years old. In his apiary he always supersedes them at that age, and thinks that it pays to do so.

Mr. A. S. Peck, Wattsburg, Pa., said that he thought that the bees themselves were the best judges of when it was necessary to supersede their queen; and that they would always attend to that business when it was necessary.

Mr. M. E. Mason, Andover, Ohio, said that he thought that the old queens often died in the winter, leaving the colony without the means of rearing another, and that this condition was not discovered in the spring until it is too late to save the colony.

Mr. Videto remarked that the best way to have good queens is, when doubling up in the fall, to save the best queens and destroy the poor ones. By pursuing this plan for a few years, any one can make a wonderful improvement in his bees.

"Which is the better to hold sections, wide frames or cases?"

Mr. M. E. Mason said that he was well aware that the wide frames, as made at present, are not perfect; but he has not seen any device yet that suits him better. He thinks that the Heddon case comes the nearest to being what he desires, and thinks that if it was constructed so as to be used with separators, that he would adopt it; but he does not want any arrangement which will not admit of the use of separators. Mr. Dodge's ideas coincided with those of Mr. Mason.

"Is it advisable to use comb foundation in sections?"

Pres. Twitchel, of Andover, O., said that he knew of no other way to get sections perfectly filled except by using full sheets of foundation.

Mr. McGonnell thought that the less we use, and get straight combs, the better.

Mr. Videto advised the use of small starters; for if full sheets were used as thin as he would want them, the bees would be very likely to cut them out, and then it would be worse than if none had been used.

Pres. Twitchel said that he and a friend had, that morning, made a tour through the honey markets of Erie, and they found but very little of the honey where full sheets of foundation was not used, that was even fairly, and none perfectly, filled; and such was being offered at 1 or 2 cents less than that which was well filled, and was dull at that.

S. B. Wheeler, Union City, Pa., has the best success by using full sheets of foundation. He said that the man who gets the best price for his honey is the one who has the most perfect sections; and that result is best obtained by the use of full sheets of thin foundation made from very light wax. He would have it made with a thin and even septum, and high sidewalls. He said that he had handled large quantities of honey, and always had received 1 or 2 cents more for perfectly filled sections than for those which were not so well filled.

Statistics obtained from 30 bee-keepers showed that 1,400 colonies had been placed in winter quarters in the fall of 1883, of which 237 died in the winter or spring, thus leaving 1,163 with which to begin the season of 1884. These were increased to 1,554, and they gathered 23,985 pounds of comb honey, and 10,870 pounds of extracted.

There was a good exhibit of apiarian supplies, most of which were of good quality. The usual variety of hives, smokers, sections, comb foundation, reversible frames, etc., was exhibited.

The following officers were elected: President, M. E. Mason, Andover, O.; Vice-President, D. Videto, North East, Pa.; Secretary, C. H. Coon, New Lyme, O.; Treasurer, J. H. Woodworth, West Williamsfield, O.; Executive Committee, Geo. Spitler, Mosiertown, Pa., D. H. Le Fever, Hayfield, Pa., J. McGonnell, Waterford, Pa. The next convention will be held in Meadville, Pa., in January, 1886, due notice of which will be given in the Bee Journal.

C. H. Coon, *Sec.*

P. F. Twitchel, *Pres.*

For the American Bee Journal.

Cyprian and Italian Bees.

L. B. SMITH.

In the spring of 1884, I had 6 colonies of bees, in box-hives, and bought one colony of Italians in a frame gum, in April, thus making me 7 colonies in all to start with. I took only enough honey for my family use, but I got as much increase and as many stings as any one in this section. The Italians increased to 6 colonies, all of which were very large ones.

I have been testing three different races of bees, this season, the Italians, Cyprians and blacks. I find that the Italians are far superior to the black bees, both for honey gathering and increase. They will store surplus honey while the blacks are idle. I also find that the Cyprian bees are as far ahead of the Italians as the latter are ahead of the blacks. I think that I hear Mr. Doolittle say, "In what way?" In these ways: 1. They are more beautiful. 2. They are proof against robbers, which the Italians are not. I find this by far the worst trait that the Italians possess. They will not defend their hives against robbers.

3. They are more active and swifter on the wing than other races, consequently they will fly farther in the same length of time in search of stores than other bees will. They will work in dry, sultry weather while the others are idle. They are more hardy, and they will stand the sudden changes of our Texan climate better than other races. Such has been my experience with them so far. They build the straightest combs and cap the honey the nicest of any bees that I have ever kept. They are very little if any crosser than Italians, when they are properly handled, and not nearly so cross as the hybrids, especially a cross between the Italian and the black bees. I will admit that it requires some knowledge of the Cyprian bees before they can be managed properly. They should not be jarred, smoked or roughly handled in any way. If they are smoked at all, it should be very little.

I have 4 colonies of Cyprians, 4 of Italians, and the rest are blacks and hybrids, making 16 colonies in all, which have wintered well up to this date.

Cross Timbers, ♂ Tex., Jan. 17, 1885.

Convention Notices.

☞ The Eastern New York Bee-Keepers' Association will hold its annual convention at Albany, N. Y., in Horticultural Hall, on Wednesday and Thursday, Feb. 18 and 19, 1885. Three sessions will be held each day. The first session beginning at 10 a. m., on Feb. 18.

Solomon Vrooman, Pres.

☞ The second annual meeting of the Seneca County Bee-Keepers' Association will be held in the Engine House at Ovid, N. Y., on Feb. 11, 1885, at 9 a. m. All interested are cordially invited to attend, and make the meeting as profitable as possible. All implements of the apiary sent to the Secretary will be exhibited at the meeting, and will be disposed of or returned as the owner directs.

Ira Wilson, Sec.

☞ The Ohio bee-keepers will hold their annual convention in the Agricultural Room of the State House at Columbus, Ohio, on Feb. 17, 1885. All subjects pertaining to bee-culture will be discussed, more especially those of spring and summer management of bees. Eminent speakers will be in attendance. All are cordially invited.

C. M. Kingsbury, Sec.

☞ The New Jersey and Eastern Bee-Keepers' Association will hold their next annual convention at Cooper Union, in New York City, beginning on Wednesday, March 11, 1885, and to continue two days or more. The committee promises a good programme, and extends a cordial invitation to all.

W. B. Treadwell, Ass't. Sec.

The International Congress.

The Convention will assemble at 10 a. m. in the Lecture Hall on the Exposition Grounds. Among the subjects which will be considered during the sessions of the Convention will be reports of the honey resources and production of America and Europe; preparation of honey for market; transportation; lower rates of freight; marketing; the advantages of the use of comb foundation; sections, the best size and the best way to use them; the best race of bees for America; prevention of swarming; fertilization of queens; bee-pasturage; bee-keeping as a pursuit; besides the discussion of other questions of interest that will be propounded. Essays to elicit discussion are expected from some of the most prominent bee-keepers of Europe and America.

Bees and bee-keepers' supplies for exhibition must be sent with *all freight prepaid*, and directed to Maj. E. A. Burke, Director General of the Exposition, for Department of Agriculture, New Orleans, La. The Board of Management of the Exposition has established a Department of Information and Accommodation, at Nos. 164 Gravier and 15 Union streets, for the purpose of furnishing visitors with information as to suitable board and lodging houses, or furnished rooms with directions how to reach them. For such service no charge is made.

Bee-keepers, on arrival in the city, are advised to go at once to the office of this department and make the best arrangements that they can for quarters, and if they will leave their cards and address at the same place, their friends will know where to look for them. The most of the visitors to the Exposition find it best and cheapest to rent rooms and take their meals at restaurants. Furnished rooms will cost from 75 cents to $1 for each person, per day, and board and lodging about double these rates. We are assured that the hotels have not advanced their rates, which are $2 to $3, according to location of rooms, etc.

Dr. J. P. H. Brown, Augusta, Ga.
Dr. N. P. Allen, Smith's Grove, Ky.
W. Williamson, Lexington, Ky.
Dr. O. M. Blanton. Greenville, Miss.
P. L. Viallon, Bayou Goula, La.
Judge W. H. Andrews, McKinney, Tex.
W. S. Hart, New Smyrna, Florida.
S. C. Boylston, Charleston, S. C.
H. C. Austin, Austin's Springs, Tenn.
R. C. Taylor, Wilmington, N. C.
J. W. Porter, Charlottesville, Va.
S. Valentine, Hagerstown, Md.

☞ The Northeastern Michigan Bee-Keepers' Association will hold its third annual convention on Feb. 4, 1885, in the Opera House, at Vassar, Mich. No local society has better meetings than the N. E. Michigan. Reduced Hotel rates may be secured. President Taylor has visited New Orleans, and will probably be able to give an interesting account of the apiarian department of the Exposition. Those going on the cars will please write for railroad certificates and secure reduced rates.

W. Z. Hutchinson, Sec.

Rogersville, Mich.

☞ For two subscribers for the Weekly Bee Journal (or 8 for the Monthly) for one year, we will present a Pocket Dictionary, and send it by mail postpaid.

Local Convention Directory.

Time and place of Meeting.

1885.

Feb. 4.—N. E. Michigan, at Vassar, Mich.
W. Z. Hutchinson, Sec., Rogersville, Mich.

Feb. 11.—Seneca Co., N. Y., at Ovid, N. Y.
Ira Wilson, Sec., Ovid, N. Y.

Feb. 17.—Ohio State, at Columbus, Ohio.
C. M. Kingsbury, Sec., Mt. Vernon, O.

Feb. 18, 19.—Eastern New York, at Albany, N. Y.
Solomon Vrooman, Pres., Seward, N. Y.

Feb. 24-26.—International, at New Orleans, La.

Mar. 11.—New Jersey and Eastern, at N. Y. City.
W. B. Treadwell, Sec., 16 Thomas St., New York.

April 3.—N. E. Kansas, at Hiawatha, Kans.
L. C. Clark, Sec., Granada, Kans.

May 4.—Linwood, Wis., at Rock Elm Centre, Wis.
B. Thomson, Sec., Waverly, Wis.

May 28.—N. Mich. Picnic, near McBride, Mich.
F. A. Palmer, Sec., McBride, Mich.

June 19.—Willamette Valley, at La Fayette, Oreg.
E. J, Hadley, Sec.

Dec. 8—10.—Michigan State, at Detroit, Mich.
H. D. Cutting, Sec., Clinton, Mich.

☞ In order to have this table complete, Secretaries are requested to forward full particulars of time and place of future meetings.—Ed.

SELECTIONS FROM OUR LETTER BOX

☞ Henry Stark, Plier,♂ Wis., on Jan. 17, 1885, reports thus:

I began the season with one colony of bees, and increased it to 3 colonies by natural swarming. I sold $10.07 worth of honey. Some think that honey has poison in it. To-day one of my neighbors, Geo. Kurtz, ate 1½ pounds of comb honey in 20 minutes.

☞ W. Z. Hutchinson, Rogersville, ♂ Mich., writes thus concerning correspondents giving their number of colonies after their names:

I wish that all contributors of the Bee Journal would indicate, by numbers after their names, their number of colonies; and thus give us at least an inkling in regard to the extent of their experience. I am much pleased to see that the number who practice this plan is increasing, and I hope that the number will increase until the practice becomes universal.

☞ Prof. A. J. Cook, Agricultural College,♀ Mich., on Jan. 26, 1885, writes thus about Texas horse-mint:

In reply to Dr. J. R. Baker, page 42, let me say that, as stated in my "Manual," on page 265, the Texas horse-mint is Monarda aristata. So we see that it belongs to the same genus as does our horse-mints, M. fistulosa and M. punctata; but it is a different species.

☞ S. B. Brillhart, Kendallville,♂ Ind., on Jan. 24, 1885, gives his report and writes concerning methods and theories as follows:

The past season has been almost an entire failure with us, so far as surplus honey was concerned; but the bees managed to "board themselves" and lay up enough for winter stores. I have 45 colonies packed with sawdust on the summer stands. The hives are ventilated at the bottom. This has proven a successful method with me during the past 12 years. A good many methods and theories are advanced in the Bee Journal, all of which are sure to make the apiarist smile in the spring when he unpacks his bees and finds them lively and happy. But, alas, how many find it exceedingly hard to get their faces in shape when they find that each locality must have its own rule to work by. The pollen theory may be all correct, but it does not bother me half as much as our long, cold winters. What we need most is good judgment to consider the locality in which we are located, handling the bees carefully during the summer, feeding them early in the fall if they need it, packing them early, keeping the entrances open, disturbing them as little as possible, and ninety-nine times out of one hundred we will succeed.

☞ A. Reusch, Chariton, ♀ Iowa, on Jan. 24, 1885, reports thus:

On Dec. 16, 1884, I put into the cellar 30 colonies and one nucleus with a select-tested queen, which, to all appearances, are doing well, and but few bees are dying. In the fall I fed them back about 175 pounds of honey in frames which I had saved for that purpose. The bees in this county are in a deplorable condition. Six different bee-keepers, who had in all 159 colonies, have lost 108 for the want of stores and proper care. I have had good success in wintering my bees in the cellar having never lost but one colony, and that starved.

☞ H. A. Goodrich, Massey,⊙ Tex., on Jan. 24, 1885, gives the following report:

Myself and 13 other bee-keepers of this county (Hill) began the season of 1884 with 163 colonies, and produced 14,707 pounds of extracted honey, being an average of about 90 pounds per colony. The most of this amount of honey was gathered from horse-mint during 12 days, from June 8 to June 20. The 163 colonies were increased to 377. Bees are wintering well. The weather, so far, has been cold, being 2° above zero.

☞ S. M. Hicken, Delaware City,♂ Del., on Jan. 27, 1885, reports as follows:

The spring of 1884 was very unfavorable for bees, being too wet and cold. I had no early swarms, but my colonies started queen-cells at 3 different times, preparing to swarm, but a cold spell would come and they would then tear down the queen-cells. So they did not swarm until about the middle of white clover bloom, which spoiled everything for surplus; for before they got the brood-chambers full, the short flow of white clover was over, and there was no more flow until goldenrod bloomed; then they crowded the queens, and would not go into the sections. So my colonies were not very strong in the fall when I put them up for winter; yet, with all the mistakes that I have made, I got from 14 very weak colonies, spring count, 300 pounds of comb honey, 100 starters, and 200 pounds of extracted honey.

☞ E. J. Smith, Addison,⟜ Vt., on Jan. 22, 1885, reports as follows:

In the fall of 1883 I put 124 colonies into winter quarters and lost 2 colonies with bee-diarrhea and 4 by loss of queens. I commenced the season of 1884 with 75 good colonies and 43 weak ones. The spring was good until the last of May; the bees had built up fast, and some colonies had queen-cells started, when, during the last days of the month, it froze hard, and a great deal of brood was chilled. It put the brood back 2 weeks, and the bees had to be fed till clover bloomed, which did not last at its best for more than 2 weeks, when the bees stored about all the honey that they got during the season, as basswood was nearly a failure. As we had no fall bloom, the bees did not secure enough honey to live on, so I had to feed 5 barrels of sugar. My surplus was 2,700 pounds of honey of the very best quality, nearly all of it being in one-pound sections. I am wintering 120 colonies in good condition.

☞ Chas. Mitchell, Molesworth, Ont., on Jan. 26, 1885, gives his report as follows:

During the season of 1884, I obtained 3,000 pounds of honey from 53 colonies, spring count, and about 40 first-swarms which I sold, thus making me a fair profit notwithstanding the poor season.

☞ Wilson Sherman, Chester Center,⊙ Iowa, on Jan. 27, 1885, reports thus:

The past season has been a very poor one in this locality. I had 4 very strong colonies of bees in the spring, and I increased them to 11 strong colonies, and captured another large swarm. They gathered enough honey to winter on, and some produced 25 or 30 pounds of surplus. My 12 colonies were put into winter quarters in splendid condition. I am wintering them in a cellar with the temperature from 40° to 45° above zero. My bees have been in the cellar 63 days, and they have been so quiet that one would not know that any bees are there, if he could not see them. Once a day, generally, I see that every thing is all right. I have wintered bees in this way for three winters without yet losing a colony. The winters are usually pretty cold here, but we almost always have an early spring.

☞ J. W. Vance, Madison,♀ Wis., writes the following to Wisconsin bee-keepers:

At a meeting of the local bee-keepers, on Jan. 15, 1885, held in Madison, Wis., it was decided to make a call for a meeting of bee-keepers on Feb. 6, to organize a State Bee-Keepers' Association. According to the programme of the farmers' meeting to be held Feb. 6, 1885, a paper is to be read on that day, entitled "Forty Years' Experience in Bee-Keeping," by T. T. English, of Baraboo, Wis. After the discussion of the paper, an opportunity will be had to organize such an association as is contemplated. Hereafter the meetings of the association can be held in connection with the farmers' meetings, and the programme can be so arranged as to give the bee-keepers one day for the reading of papers and discussions. The Madison bee-keepers consider this a happy juncture for the institution of a State organization, and have earnest and confident hope that the cause of progressive bee-culture shall thereby be encouraged and promoted. They appeal to the wide-awake as well as to the indifferent and plodding apiarists of the State to come to the meeting and aid them in their endeavor to build up a strong association. They accordingly adopted the following call:

We deem this a suitable opportunity to organize a State Bee-Keepers' Association, in view of the fact that the farmers' annual meeting will be in session from Feb 3 to 6, 1885, on which occasion there will be many farmers present who are likewise engaged in bee-keeping. We, therefore, make this call for all who are interested in bee-culture to attend and assist in organizing a State association.

There are few States in the Union of the same age as Wisconsin that have as many people engaged in bee-keeping, and almost all have their State associations. It is needless to speak of the importance of such organizations; the fact that in almost every State bee-keepers have organized and are keeping up their annual meetings is sufficient evidence that their benefit is acknowledged and appreciated. Railway arrangements have been made for the return of members at one-fifth of the regular fare. J. W. Vance, *Sec.*

Special Notices.

Catalogues for 1885.—We have received the following:

A. B. Howe, Council Bluffs, Iowa.
John T. Smith, Bellevue, Mich.
F. N. Lang, Baraboo, Wis.—Seeds.
Cole Brothers, Pella, Iowa—Seeds.
Pryal's Nurseries, Oakland, Calif.—Seeds.
Peter Henderson & Co., 35 & 37 Cortland-st. N. Y.—Superbly Illustrated.—Garden, Field, and Flower Seeds.

◆

☞ We will send sample copies free to all who wish them, or desire to get up Clubs. Now is the time to work for the Cash premiums we offer. A large club for the Monthly can be gotten up in almost every locality.

◆

☞ For $2.75 we will supply the Weekly Bee Journal one year, and Dzierzon's Rational Bee-Keeping, in paper covers; or the Monthly Bee Journal and the book for $1.25. Or, bound in cloth, with Weekly, $3.00; with the Monthly, $1.50.

◆

☞ Our rates for two or more copies of the book, "Bees and Honey," may be found on the Book List on the second page of this paper. Also wholesale rates on all books where they are purchased "to sell again."

◆

☞ To Canadian subscribers let us say that we have made arrangements so that we can supply the *Farmer's Advocate* of London, Ont., and the Monthly Bee Journal for one year at $1.25 for the two.

◆

☞ Do not forget to send for a Binder in which to file your Journal and thus have the full benefit of it during the whole year.

◆

☞ The long winter evenings will be well occupied by reading bee literature. When renewing your subscription, it will be well to get some good bee-books. See our list of books on the second page and select what you need.

◆

☞ Every subscriber is kindly invited to obtain a *new* subscriber to send with his renewal. Please notice the premiums offered for clubs, on another page.

◆

Apiary Register—New Edition.

All who intend to be systematic in their work in the apiary, should get a copy and commence to use it. The prices will hereafter be as follows:

For 50 colonies	(120 pages)	$1 00
" 100 colonies	(220 pages)	1 25
" 200 colonies	(420 pages)	1 50

The larger ones can be used for a few colonies, give room for an increase of numbers, and still keep the record all together in one book, and are therefore the most desirable ones.

CLUBBING LIST.

We will supply the **American Bee Journal** one year, and any of the following Books, at the prices quoted in the last column of figures. The first column gives the regular price of both. All postage prepaid.

	Price of both.	*Club*
The Weekly Bee Journal,	$2 00..	
and Cook's Manual, latest edition	3 25..	3 00
Bees and Honey (T.G.Newman) cloth	3 00..	2 75
Bees and Honey (paper covers)	2 75..	2 50
Binder for Weekly Bee Journal	2 75..	2 50
Apiary Register for 100 colonies	3 25..	3 00
Dzierzon's New Bee Book (cloth)	4 00..	3 00
Dzierzon's New Book (paper covers)	3 50..	2 75
Quinby's New Bee-Keeping.	3 50..	3 25
Langstroth's Standard Work	4 00..	3 75
Root's A B C of Bee Culture (cloth)	3 25..	3 10
Alley's Queen Rearing	3 00..	2 75
The Weekly Bee Journal one year		
and Gleanings in Bee-Culture (A.I.Root)	3 00..	2 75
Bee-Keepers' Magazine (A.J.King).	3 00..	2 75
Bee-Keepers' Guide (A.G.Hill)	2 50..	2 35
Kansas Bee-Keeper	3 00..	2 75
The Apiculturist, (Silas M. Locke) ..	3 00..	2 90
The 6 above-named papers	6 50..	6 00

THOMAS G. NEWMAN,
925 West Madison Street., **Chicago, Itt.**

◆

☞ The third annual convention of the Eastern Iowa and Western Illinois Bee-Keepers' Association will meet at Moore's Hall, Davenport, Iowa, on Feb. 18, commencing at 10 a. m., and lasting two days. Bee-keepers' headquarters will be at the Newcomb House, where rates have been reduced to $1.50 per day. Honey, beeswax, or apiarian supplies for exhibition should be sent to I. Hall, who will take charge of them, at the depot or express office, and return the same as owner may direct. It is expected that this will be the largest and most interesting meeting ever held in the State. Everybody invited to attend.
I. V. McCagg, *Pres.* Wm. Goos, *Sec.*

◆

☞ The Willamette Valley Bee-Keepers' Association will hold its second meeting at La Fayette, Oregon, on the third Tuesday in June, 1885. All who are interested are invited to attend. E. J. Hadley, *Sec.*

NEW ORLEANS EXPOSITION.

VISITORS to the Exposition should write to the Secretary of the Illinois Exhibitors' Association, No. 115 Customhouse St., New Orleans, La., for a guide and instructions about rooms, board, etc., as it will save them money. Enclose postage stamps for return answer, and state how many rooms are wanted.

THE BRITISH BEE JOURNAL
AND BEE-KEEPER'S ADVISER.

The British Bee Journal is published SEMI-MONTHLY, at Seven Shillings per annum, and contains the best practical information for the time being, showing what to do, and when and how to do it. **Rev. H. R. PEEL, Editor.**
LONDON, ENGLAND.

The British Bee Journal and our Weekly for $3.50: with our Monthly, $2.00 a year.

The Bee-Keepers' Supply Company,
Of New Comerstown, Ohio.

THE above company has been incorporated under the laws of the State of Ohio, with a Capital Stock of $30,000, with A. M. Beers, W. R. Shields, A. E. Munn, R. L. Shoemaker, and S. F. Timmons as incorporators. The stock of said company will be divided into 1,500 shares of 20 dollars each. Books will be open for subscription to the above stock, on Monday, Feb. 23, 1885, at New Comerstown, Ohio. Ten per cent. of stock subscribed payable at time of subscription; twenty per cent. payable monthly thereafter, provided that all stock must be paid in full by September 15, 1885. Provided, further, that full payment of stock subscribed may be made at any time before due. Remittance for stock duly acknowledged and certificate of same issued when paid in full. Remit by Express, N. Y. Exchange, Registered Letter, or P. O. Money Order. Address all communications to the above Company.

Bee-Keepers' Supplies.

WE have added to our Large Factory a **SPECIAL DEPARTMENT** for the

Manufacturing of Bee-Hives,
AND
White Poplar Dovetailed
Also, One and Two-piece SECTIONS.

☞ All Orders will be filled promptly at the **LOWEST FIGURES**,

Send Stamp for Catalogue and Samples.
The H. F. MOELLER M'f'g Co.
1A26t DAVENPORT, IOWA.

BEES **For Pleasure and Profit.** A New Book of 172 pages, profusely illustrated, by Rev. Wm. Ballantine. Prices, 50 and 75 cents. Address the author at
1A5t New Concord, Muskingum Co., Ohio.

THE
VICTOR HIVE

is operated upon a new principle by which the sections are placed in vertical lines with the brood frames; continuous passages being effected in a

Practical Manner!

It may be arranged for any form of the Langstroth Frame; has been fairly tested, and is the **Best Hive** made for Comb Honey. May be used for Extracting. Send for my 24-page Catalogue and Price List. Address

DR. G. L. TINKER,
1Atf NEW PHILADELPHIA, O.

REVERSIBLE FRAMES.

SEND 15c. (in one or two-cent stamps) and get by return mail the neatest, cheapest and most practical arrangement extant for reversible frames. They are adapted to any frame or hive.

HENRY ALLEY,
1Atf WENHAM, MASS.

$200,000 *in presents given away.* Send us 5 cents postage, and by mail you will get *free* a package of goods of large value, that will start you in work that will at once bring you in money faster than anything else in America. All about the $200,000 in presents with each box. Agents wanted everywhere, of either sex, of all ages, for all the time, or spare time only, to work for us at their own homes. Fortunes for all workers absolutely assured. Don't delay. H. HALLETT & Co.
51A1y Portland, Maine.

ATTENTION, BEE-KEEPERS!

AS I have greatly increased my facilities for the **Manufacture of APIARIAN SUPPLIES.** It will be to your advantage to send for my **Illustrated Price List.** Free to all. **Cash paid for Beeswax.**

A. B. HOWE,
5A3t COUNCIL BLUFFS, IOWA.

BEESWAX.

I pay **25c.** per pound delivered here, for yellow Beeswax. To avoid mistakes, the shipper's name should always be on each package.

ALFRED H. NEWMAN,
923 West Madison St., CHICAGO, ILL.

Vandervort Foundation Mill.

6 Inch, Price, $25.00.

It makes the finest extra thin Foundation for comb honey. For Sale by

ALFRED H. NEWMAN.
923 West Madison Street. CHICAGO. ILL.

ELECTROTYPES

Engravings used in the Bee Journal for sale at 25 cents per square inch—no single cut sold for less than 50c. **THOMAS G. NEWMAN,**
925 West Madison Street **Chicago, Ilt.**

"BOSS" ONE-PIECE
SECTIONS.
READ THIS.

A word of explanation in regard to the infringement suit on the One-Piece Section, we deem necessary at this time.

I commenced suit against A. I. Root, in the United States Circuit Court, for the Northern district of Ohio; Stanley Matthews presiding. He decided that the patent was void for want of novelty. I have taken an appeal to the United States Supreme Court at Washington, which will decide the case, and its decision will be final. If it goes against me I will submit, but if decided in my favor, I shall expect all who have infringed will pay me damages from date of the patent.

Some unprincipled parties are advertising that the Courts have decided that the patent is void. This is not the case, as it is before the United States Supreme Court at Washington, at the present time. When that Court gives its opinion it will be final, and until it does, any one infringing will be liable for damages, if the United States Supreme Court sustains the patent.

PRICES OF SECTIONS.

PATENTED, JUNE 28, 1881.

One-lb. Sections	in lots of	500 to 4,000	$5.00
Ditto	Ditto	5,000 to 10,000	4.75
Ditto	Ditto	10,000 to 25,000	4.50
Ditto	Ditto	25,000 to 50,000	4.25
Ditto	Ditto	100,000 or more	4.00

The one-lb. Section is 17 inches long. For any sizes between 17 and 20 inches in length, add 5 per cent. For any sizes between 20 and 24 inches, add 10 per cent. Add the above per centage to the price of one-lb. Sections in the same quantity.

J. FORNCROOK & CO.,
1Ctf Watertown, Wis., Dec. 1, 1884.

Bee Hives
AND
SECTIONS.

NEW SHOP AND NEW MACHINERY ! !

The Largest Manufacturer of Bee Hives Sections, etc., in the World!

Our capacity now is a **CAR-LOAD OF GOODS DAILY.**

DECIDED.—The Courts have decided the Patent on the One-Piece Section to be *null* and *void* for want of novelty. We are now manufacturing them again as first placed on the market by Lewis & Parks.

Write for my new Price-List for 1885.

G. B. LEWIS,
49Ctf WATERTOWN, WIS.

Friends, if you are in any way interested in

BEES OR HONEY

We will with pleasure send a sample copy of the **Semi-Monthly Gleanings in Bee-Culture**, with a descriptive price-list of the latest improvements in **Hives, Honey Extractors, Comb Foundation, Section Honey Boxes**, all books and journals, and everything pertaining to Bee Culture. *Nothing Patented.* Simply send your address *written plainly*, to

Ctf A. I. ROOT, Medina, O.

BEE-KEEPERS' SUPPLIES.
MANUFACTURERS OF
BEE-HIVES
AND

One-Piece Sections, Foundation, Smokers, &c

Send for Circular. **Smith & Goodell.**
49Ctf ROCK FALLS, ILL.

Bee Hives, Sections, &c.

Our New Shop Completed, and our New Machinery at Work.

WE now claim the best facilities for furnishing Supplies in the Southeast. Our Factory will be equipped with the latest improved machinery, which will enable us to manufacture Goods" up to the times," and will furnish all kinds at very reasonable prices. Parties needing Supplies would do well to see our prices before buying.

QUEENS and BEES for 1885.

THE ALBINOS AHEAD, and we make a specialty of them. Those who wish for **EARLY QUEENS** should order them soon, as orders will be filled in rotation. For Prices, address

S. VALENTINE & SON,
1C2t HAGERSTOWN, MARYLAND.

HEADQUARTERS IN THE SOUTH

For the manufacture of

BEE-KEEPERS' SUPPLIES.

Dunham and Root Foundation a specialty. Italian Queens and Bees from March to November. ☞ Send for my Illustrated Catalogue.

5Ctf **PAUL L. VIALLON**, Bayou Goula, La.

BEES, EARLY QUEENS,
AND SUPPLIES FOR 1885.

IF you need **Early Queens and Bees bred for business** and beauty, nuclei or full colonies; sections and hives of best workmanship; **Dunham or Vandervort Comb Foundation**, send for my catalogue for 1885.

Address **J. P. H. BROWN,**
5A21t AUGUSTA, GEORGIA.

The Oldest and Largest establishment in the United States making a Specialty of Mail Orders.

JOB PRINTING, POST-PAID BY MAIL.

Letter Heads, Bill Heads, Envelopes and Business Cards, **35** cents per **100**, 500 for $1.50. All kinds of Job Printing neatly executed. Send stamp for samples. Our paper, **Boys and Girls**, 25c. a year. Send for Sample Copy. **R. M. RULISON,**
2C3t FLUSHING, MICH.

THE POULTRY RAISER, 69 Dearborn St., Chicago, Ill.

Only 25 cents per year, for 12 numbers of 16 pages each. $100.00 in gold free. Send 2c. stamp for sample copy. 2C3t

---

IF YOU WANT SUPPLIES,
BEE-HIVES,
SECTIONS, COMB FOUNDATION, &c.,

don't fail to send for Catalogue of **Reduced Prices for 1885.**

J. J. HURLBERT,
2Ctf LYNDON, Whitesides Co., Ill.

(ESTABLISHED 1864.)

BEE-SUPPLIES.

We furnish EVERYTHING needed in the Apiary, of practical construction, and at the **lowest price.** Satisfaction guaranteed. Send your address on a Postal card, and we will send you our Illustrated Catalogue free. **E. KRETCHMER,**
2C12t COBURG, IOWA.

Bee-Hives and Supplies.

WE HAVE remodeled our machinery and can fill orders on short notice. If wanted, **Odd Sizes** made; send order now, before the rush comes. We have a large stock on hands. We give 4 per cent. discount till Jan. 15, and 3 per cent. discount till Feb. 1. Price List free.

R. J. MILLER & CO.
1D6t NAPPANEE, Elkhart Co., Ind.

W. Z. HUTCHINSON,
Rogersville, Genesee Co., Mich.,

can furnish just as neat, white, smooth and perfect, dovetailed, white poplar sections as there are made. Send for sample and prices.
4Dtf

SOMETHING NEW!

THE **Best-Made**, handiest and cheapest combination,

Summer and Winter Hive

in the market. Send for Catalogue of general **APIARIAN SUPPLIES.** The best white poplar **SECTIONS** and pure yellow beeswax. **COMB FOUNDATION** a specialty. Full Colonies, Nuclei Colonies and

QUEENS for SALE.

Be sure to send for 25th Annual Price List, before making your purchases for 1885.

Address **WM. W. CARY, Jr.**
COLERAINE, MASS.
3Dtf Successor to Wm. W. Cary & Son.

$1 WORTH OF TESTED SEEDS FREE.

To any person sending us **50 cents** for one year's subscription to the **Rural Home**, and 7 cts. to help pay postage, packing, etc., we will send the **Ten Packets** of choice Vegetable seeds named below **free.** We make this offer to induce you to become a regular subscriber to the **Rural Home**, and to test the value of our seeds (specially grown for our use). Following are the seeds we offer: *Early Oxheart Cabbage, Imp. Blood Turnip Beet, Livingston's Perfection Tomato, New Italian Onion: Early White Turnip, Early Montana Sugar Corn, New Perpetual Lettuce, Premium Green Pea, Valparaiso Squash, new, Imp. Large Sugar Parsnip.* We want every farmer and gardner in the U. S. to give these seeds an honest and fair trial. They are warranted to be of the very best quality, true to name, fresh and pure and of the growth of **1884.** Full directions for cultivating on every package. Address

THE RURAL HOME,
3D4t **Philadelphia, Pa.**

MISSOURI.

THE **ONLY MANUFACTURERS IN MISSOURI**, of Apiarian Implements. Send for Circular and Price List of our Hive with the **Reversible** Surplus-arrangement for comb honey. Also **Smokers, Comb Foundation, Italian Queens, etc.**

KENNEDY & LEAHY,
P. O. Box 11. HIGGINSVILLE,
5C2t Lafayette Co., Mo.

We will send you a watch or a chain **BY MAIL OR EXPRESS**, C. O. D., to be examined before paying any money and if not satisfactory, returned at our expense. We manufacture all our watches and save you 30 per cent. Catalogue of 250 styles free. Every Watch Warranted. Address

STANDARD AMERICAN WATCH CO.,
PITTSBURGH, PA.
46A26t

Muth's Honey Extractor,

Square Glass Honey Jars, Tin Buckets, Langstroth Bee-Hives, Honey-Sections, etc.

Apply to **C. F. MUTH,**
976 and 978 Central Ave., **CINCINNATI, O.**
☞ Send 10c. for Practical Hints to Bee-Keepers.

FOR BEE-HIVES

And a general assortment of **Bee-Keepers' Supplies** send for circular to
51Dtf J. E. PRYOR, Dexter, Iowa.

HELP for working people. Send 10 cents postage, and we will mail you *free*, a royal, valuable sample box of goods that will put you in the way of making more money in a few days than you ever thought possible at any business. Capital not required. You can live at home and work in spare time only, or all the time. All of both sexes, of all ages, grandly successful. 50 cents to $5 easily earned every evening. That all who want work may test the business, we make this unparalleled offer: To all who are not well satisfied we will send $1 to pay for the trouble of writing us. Full particulars, directions, etc., sent free. Immense pay absolutely sure for all who start at once. Don't delay. Address STINSON & CO.
Portland, Maine.
51A1y

WEEKLY EDITION
OF THE
AMERICAN
ESTABLISHED IN 1861
OLDEST BEE PAPER IN AMERICA
BEE JOURNAL
PUBLISHED BY
THOMAS G. NEWMAN,
EDITOR AND PROPRIETOR,
925 WEST MADISON-STREET, CHICAGO, ILL.
Weekly, $2 a year; Monthly, 50 cents.

Vol. XXI. February 11, 1885, No. 6.

"Honey" and "Comb" to Order.

The New York *Mail and Express* recently contained the following very erroneous article, which has been extensively copied by the newspapers of America:

Not only has American enterprise succeeded in manufacturing a honey-comb to save the bees the trouble of furnishing a receptacle for their sweet store, but it even threatens to do away with the services of the industrious little bee by supplying the honey also. More than one variety of manufactured honey is at present sold in the market as being the genuine product of the busy little bee. Some of it comes in the form of strained and clarified honey, put up in glass jars. More of it is supplied in the comb in small boxes with glass on either side, through which it may be seen looking as natural as if it had been stolen from the hive. Connoisseurs have great difficulty in detecting the difference between the genuine and the manufactured article by its appearance only, but nearly any one who has used the *bona-fide* treasure of the hive to any extent, will note the difference in taste. In real honey there is an agreeable sharp taste as if millions of little needle points had barely touched the tongue and palate. This is missed in the spurious article, which partakes of the flavor of maple syrup.

The artificial comb used to supply the place of that made by the bees, has not been very successful thus far. The bee at once detects the imposition and refuses to store its sweets in the cavities. It gnaws at the parts which hold it to the hive until it falls, and then commences to build its own. The reason of this is, that it has been found difficult to find sufficient beeswax to supply the demand, and, consequently, other kinds had to be utilized. Spermaceti, paraffine, and wax obtained from mineral products have all met with the same recognition from the bees. They have, however, been successfully used in storing the manufactured honey, and when the cavities are filled and covered over with a thin sheet of wax, they present to the inexperienced, the self-same appearance as that taken from the hive.

The sensational heading which the New York paper gave the item is as follows: "Human Ingenuity Endeavoring to do Away with the Work of the Bees," and is nothing but a sensational falsehood throughout. Of course it will be almost useless to even try to refute it—for while truth travels on foot, falsehood and misrepresentation "fly" like the lightning!

That "Wiley" *lie* is the only foundation for the above, and that he tried to "palm off" as a "scientific pleasantry," when pressed by the BEE JOURNAL for the *proof* for his wild assertions!

We will repeat what we have often asserted, that there is no such thing on the markets, or elsewhere, as "manufactured comb honey!" There is no such thing as "artificial comb" in existence! Comb foundation is but the "mid-rib" or sheet of wax upon which the bees build their cells, or draw out the wax into natural comb! Call things by their right names.

If the great newspapers who have copied the article from the *Mail and Express*, cared one-tenth part as much for the *truth* as they do for a "sensation" with which to "sell" their readers as well as their papers, we might hope they would publish a contradiction of that stupid article—but, alas, this is an age of "humbugs and swindles," and we cannot hope for *justice* from them; but

> "Truth crushed to earth shall rise again,
> The eternal years of God, are hers."

Therefore, let all our readers who have influence with their local papers, take this article to them and endeavor to have it inserted; and in that way counteract as far as possible the lies published by the city dailies on this subject.

◆

☞ A correspondent in the London *Journal of Horticulture* of January 22, gives the following account of the conditions of the bees and the season in England:

The present winter so far cannot be said to have been severe—just enough to keep the bees indoors, but not to necessitate a large consumption of food; or so mild as to keep the bees in a constant state of activity, which leads to the same results. Many of our bees have already had a good airing, all seemingly are in good health, and judging from their appearance and past experience all are breeding; but they will remain unmolested, as I have no apprehension as to damp, dirty floors or want.

◆

International Congress.

Mr. Paul L. Viallon, Bayou Goula, La., writes thus concerning it:

Judging from my correspondence, I think that our International Bee-Keepers' Congress will be a success, and we expect a large attendance. Many bee-keepers were undecided, fearing over-charges for board, etc., but since they are assured that they can board for $1.50 to $2.50 per day in respectable quarters, they have made up their minds to be present. The benefit that every one will derive, not only in assisting and taking part in the deliberations of the convention, but also in visiting one of the largest and finest Expositions of the world, will fully repay for the time and expense. We have had more rain in the two past months than we have had for several years in the same months, but since 3 or 4 days the weather is again settled, and it looks more as usual, and we are having regular sunny spring days. The plum trees are budding, and will be in full bloom in a few days, and the bees are jubilant. We hope that we will have such weather, and I have no doubt of it, as it is usually so in February, so that our Northern friends may be delighted with their visit to Louisiana. We are pleased to hear that the editor of the BEE JOURNAL will honor us with his presence, and give a helping hand to the success of the Congress. I hope to see the largest congregation of bee-keepers that has ever been together in the world.

From present indications there will be a large gathering of bee-keepers at the New Orleans Congress, from all the States, and some are expected from foreign countries. A correspondent asks how to gain admission to the Congress. It is to be held in the "Lecture Hall" on the Exposition grounds, and all bee-keepers are invited to attend. The "Hall" may be easily found, we should think, by enquiring at the Bureau of Information, or elsewhere.

◆

☞ There is a "Rey" of Hope at the "Sweet Home Apiary," at East Saginaw, Mich. It is a "queen," and weighs 10 lbs. It arrived on Feb. 2, and made John Rey very happy.

◆

☞ John Nau, Secretary of the Des Moines Co., Iowa, Bee-Keepers' Association, lately caught a "queen," and the *pair* are now living on *honey* for a whole "moon." They called at the office of the BEE JOURNAL on Feb. 3, on their way home.

QUERIES

WITH

REPLIES by Prominent Apiarists.

Sections Parallel with Frames.

Query, No. 11.—Does it make any difference whether the sections run crosswise of the brood-frames when using a case on top for comb honey? In most cases the sections run parallel with the brood frames; if it makes any material difference, please state why I can use the sections crosswise to the best advantage on the hive I use. Can we not dispense with wired frames by using reversible frames?—Unionville, Ont.

Dr. G. L. Tinker replies as follows: "It does not matter whether the sections run crosswise of the brood-frames or parallel, if a bee-space exists between the sections and frames. Sections should, however, run parallel with the brood-frames without a bee-space; but it is impracticable to place sections or section-cases directly on the brood-frames."

Prof. A. J. Cook remarks as follows: "With a honey-board and double bee-space, I cannot think that it makes any difference. I have tried sections parallel with brood-frames and crosswise. The bees work the same in either case. Convenience should guide us. I think that we shall still like the wired frames. We thus prevent all vexation from sagging, warping and dropping of the foundation."

G. M. Doolittle says: "It makes no difference which way the sections run to the brood-frames where the Langstroth bee-space is used, as I have repeatedly proven to my satisfaction. Where a continuous passage-way is used, necessity compels us to place the sections parallel with the brood-frames. I cannot see how reversing the frames can help us any regarding the use of wire in frames of foundation."

J. E. Pond, Jr., replies thus: "My impression is that sections will be entered more readily when they run parallel with the brood-frames. There certainly will be less obstruction when they so run, and this, I should suppose, would tend to start the bees up. My experiments, last season, with continuous passage-ways, showed me that they were more freely used than were the ordinary passages either into crates or wide frames, and convinced me that the less obstructions we have to the surplus receptacles, the more quickly and freely will they be occupied."

Dr. C. C. Miller answers thus: "I prefer sections parallel to brood-frames because of freer access to sections, and so that the hive can slant somewhat from front to rear."

W. Z. Hutchinson remarks thus: "It is desirable that the hive should be a trifle lower in front, if for no other reasons than that the rain will not run into the hive, and that the condensed moisture from the bees' breath may run out. It has also been asserted that the bees will build their combs straighter when the back end of the hive is raised a little. If the front of the hive is lower than the back, and the brood-frames extend from front to rear, the sections must of necessity be parallel with the brood-frames. If the hive is level, I do not know that it makes any difference so far as the amount of honey secured is concerned, whether the sections extend crosswise or are parallel with the brood-frames. Wires are needed before the foundation is drawn out, very much more than after the combs are finished, hence, reversible frames will not enable us to dispense with wires when using comb foundation."

James Heddon replies thus: "As my honey-board is adjusted to the brood-frames, I can use sections running crosswise of the brood-frames, with no disadvantage except that the hive must always set plumb both ways; and I much prefer to have it pitch toward the entrance. The use of reversible frames will not dispense with the need of wires, for holding the foundation in place, when being drawn out by the bees."

Dr. J. P. H. Brown says: "I think that it makes no material difference. In fact I prefer them to run crosswise, as this arrangement admits of easier access by the bees."

Sections Partly Filled with Comb.

Query, No. 12.—I have a number of sections partially filled with comb. Should the supers be entirely filled with them, or partly filled with new sections? If the latter, what part of the super is the best location for the sections containing comb? Will the honey be as good and salable if produced on those old combs as if stored on new comb foundation?—Rockford, Ill.

James Heddon replies thus: "If no separators are used, I should fill the supers with all combs of as near the same size as possible, keeping combs and foundation and sections by themselves. If you put them side by side, you will be likely to get bad and bulging sections of honey. Your comb honey will, as a rule, look best stored in the sections containing new foundation rather than combs."

Dr. C. C. Miller says: "If the comb is bright and clean, it is better than foundation. Supers may be filled with them and put on at the time of the heaviest honey-flow, or some of them may be put in the central part of the supers first put on."

W. Z. Hutchinson remarks thus: "Unless separators are used, the supers should be entirely filled with the partly filled sections. If early in the season, and separators are used, and it is desirable to get the bees started in the sections as soon as possible, put them in the centre; if in the height of the season, put them in the outside tiers, and the whole case of sections will be finished more nearly at the same time. If the combs are new and white, the honey will be of the first quality."

G. M. Doolittle answers thus: "Divide the number of sections filled with comb by the number of colonies which are to produce comb honey, giving each an equal number which should be placed in the centre, filling out with new sections. Honey in sections produced with these combs, is generally 'a little off,' regarding color and tenderness of comb, but the honey of itself is as good as any."

Prof. A. J. Cook replies thus: "Use all with comb if they are to be had. If the comb is white and nice, they will be beautiful."

Dr. G. L. Tinker answers as follows: "Where separators are used, I should place the partly filled sections alternately with the new ones, but if no separators are used, I should place all the partly filled sections in cases by themselves. The honey stored in the old combs will be just as good and salable as that in the new, if they have been properly cared for. To keep dust off from them, pack them in the section-cases and store them in a room where there is little dust flying. To keep them perfectly clean, wrap them up in wrapping-paper or old newspapers. If there is any honey left in the combs, they must be kept where the mice cannot get at them."

Dr. J. P. H. Brown remarks thus: "I should alternate the partially filled sections with new ones filled with comb foundation. If the combs are white and clean, the honey stored in them will be just as good."

Temperature and Hibernation.

Query, No. 13.—At what temperature should bees be kept so that they will hibernate? Is it advisable to keep them at such a temperature that they will hibernate?—Woodstock, Ont.

Dr. C. C. Miller answers thus: "The quieter bees can be kept the better—somewhere from 35° to 55°; to be determined by actual observation in each case."

G. M. Doolittle replies as follows: "Forty-two to 45° is the best temperature for bees to pass the winter in. According to the meaning of the word 'hibernate,' I do not see how it can be applied to a colony of bees, for the centre bees of a colony are as lively in winter as in summer. Quinby says, on page 284 of his 'Mysteries of Bee-Keeping' (1865), when speaking of a colony of bees in winter, 'those on the outside are somewhat stiffened with cold, while those within are as brisk and lively as in summer.' In this as well as in most other things I find Quinby correct."

W. Z. Hutchinson says: "It is advisable to keep bees at that degree of temperature at which they are the most quiet, and this degree is not always the same."

J. E. Pond, Jr., answers as follows: "I conclude that each colony must be a law unto itself. I believe it advisable to keep the bees in a hibernating state, or as nearly so as possible; but until it is possible to bring each colony to exactly the same condition, no exact rule of temperature can be given. I have found a variance of 10° between different colonies with the same external temperature. Keep the bees as nearly quiet as possible, is the best rule to adopt."

PROF. A. J. COOK remarks thus: "Bees never hibernate. I think that 45° is the best for cellar-wintering."

JAMES HEDDON replies thus: "If hibernating is going to be twisted to mean getting quiet, then experience proves that a temperature of about 40° Fahr. is what you wish. If it means going into that torpid state into which ants, wasps, black and gray squirrels go, then, if such a state was possible with the bees, which I disbelieve, they would require a low temperature as first claimed by Mr. W. F. Clarke; but that, experience proves, is a cause of uneasiness or physical exertion."

H. R. BOARDMAN remarks as follows: "Temperature has nothing to do with the bees hibernating. It is instinctive, and always occurs when bees are quietly clustered for any considerable time in perfect idleness, whether in the hive or out of it—at any time of the year—quite early in fall, even during quite warm weather, after the honey gathering has ceased and all the brood is hatched in the hives. The bees go into a dormant state of rest and remain in this condition in any temperature varying from 60° above to 40° below zero, until interrupted by some disturbance or aroused to activity by the commencement of brood-rearing, which occurs in a well regulated bee-house about Feb. 1. More or less uneasiness will prevail from this time until they have the benefit of warm weather and frequent flights. A uniform temperature is most congenial throughout, at least avoiding the disturbance of sudden changes; and a mild temperature in preserving animal vitality is also to be desired. I have best succeeded with a temperature of about 40° until near Feb. 1, or until there are evident signs of brood-rearing, and then a much higher temperature—50° or 55°, or even higher, gives a better result."

◆

☞ Between the clapboards of his house, A. Billings, of Le Roy, Minn., found 115 pounds of honey. One piece of comb was 5 feet 9 inches long and 23 inches wide. So says the *Inter-Ocean* of Sunday, January 25, 1885.

◆

☞ Wild buckwheat is still in bloom, the goldenrod yielding honey, the Acacia furnishing pollen, and the blue-gum just pushing out its creamy, white, cushiony bloom, rich in nectar, giving employment every shining hour to the busy bee, and very soon the willow will furnish the inspiration for swarming.—*California Paper.*

CORRESPONDENCE

For the American Bee Journal.

Hibernation, Bee-Diarrhea, etc.

E. B. SOUTHWICK.

Hibernation is a word which has a meaning of its own, but that meaning has no connection with what scientists have appropriated it; but we must bow to these tyrants in science, and use the word as they have elected that it should be used.

Bees never hibernate. Coons, porcupines, bats, and the like, enter into a winter sleep (as German scientists call it) and remain four or five months without food, and come out all right. But if bees should go into any state in which they would be without food for thirty days, I think that they would be dead bees, or of no value when they come out of it. Bees go into a state of "dormant vitality" produced by chilling, but if they remain long in it, they are sure to die when they come out of it.

I have been asked what bees do in winter. They cluster on their combs where the honey is the lowest, and crowd as close together as possible. The bees inside take a full meal of honey and then come outside, the next inside do the same, and so on until the outside ones are crowded in, warmed and get their fill, and come outside in turn to cluster over the rest. They continue doing so while cold weather lasts, if they have plenty of honey in the cluster or right above it, and if they have a good, comfortable hive.

In this condition they will stand a long, cold winter. But if some of the bees, after eating the honey off of the bee-bread, eat the bee-bread, it will stimulate them to secrete the food that is fed to the young bees, and this they feed to the queen, which stimulates her to laying, and this is the commencement of our winter troubles. But if few bees get to eating pollen, and most of them move up to where there is honey, there will be but little damage done. On the contrary, if many bees get to eating pollen, there will be much brood, and the inside bees, instead of going outside and crowding the others in to get their fill of honey, remain inside to secrete food and nurse the young bees. The outside bees being in a state of semi-dormant vitality, cannot get at the honey, and consequently starve and drop down or stick to the combs. At this time, it there comes a warm spell, the nearly dead bees crawl over the combs, discharge their feces and die; others, a little better, will fly out and die on the ground, and others, still better, after dropping their feces, will be able to get back to the hive. Those which remain are able to get back to their own feed, and are all right again; and if they have plenty of honey, they may come out quite fair.

Again, if the colony has not enough honey to live on where they can get at it, or, in other words, covered by the cluster or directly above it, they will in the same way consume what they have and then starve. If the weather remains so they cannot move until they are dead, they will show no signs of diarrhea; but if life is not all gone when they warm up, they crawl over the combs and discharge their feces, and in either case, on pressing the abdomen, we will find it to contain the fluid such as is dropped on the combs and hive in case of bee-diarrhea.

I have thought that much honey induced breeding, so I intended to put in about what they would need until I could supply them in the spring, but as bees are so variable in the amount they consume, in some I have not put in enough, and in others so much that I thought it caused breeding, and in either case the bees would be dead and frequently show signs of diarrhea.

I think that pollen is never used as food, but is taken into the stomach to excite a secretion of bee-feed which causes the great amount of honey used when breeding. Bees will secrete a small amount of this feed without pollen.

Since writing the above I have received No. 3 of the BEE JOURNAL, in which the foregoing is pronounced folly. It is not the first time that my opinions have been thus spoken of, but the facts are the same. I did not intend to give any reason in this, for I considered it an answer to questions; but I will digress a little.

Food is something that is taken into the stomach, it is digested and nourishes the system. Pollen is reported as having been found in the intestines in so perfect a state that learned men have decided that they could tell from what flowers it was taken. Does this indicate that it is digested and assimilated in the system? The natural excretions of perfectly healthy bees, when fed on honey alone, will be in a nearly dry state, and the greater part of it will be wax. This was proven by an experiment by Prof. Cook; although he drew different conclusions, the proof is there just the same.

Mr. Hutchinson says that he supposed that a flight was the cure for bee-diarrhea. Did it ever enter his mind that possibly the "square meal" of honey they got at this time was the cure?

Concerning query No. 4, I should say that the bees did not have the diarrhea, but a kind of summer complaint caused by their flying out in cool, damp weather. I have noticed the same thing in the North in the spring, and many bees die. It is one form of spring dwindling, and the remedy is: Fair, warm weather or so cold that they cannot fly. The querist asks whether they will come through the winter by rearing brood plentifully. No; the more breeding the more activity outside, more bees die, and the first cold spell will chill the brood and all will die.

Many bee-keepers are deploring the low price of honey. I think that they are mistaken. I would like to see comb honey sold at 12½ cents, and extracted at 9 cents per pound, then it would be bought by the economist, and not unfrequently take the place of butter to the satisfaction and health of the children; then it would become a staple article and be sought after as butter is now; and then supply and demand would regulate the price. "But," says some, "we cannot produce honey at those prices." Then go out of the business. There are some who can and will, and let that be regulated by the "survival of the fittest." The selling of honey is more perplexing to many than producing it.

Reversible frames are much talked of now. My first frames were reversible, and I have never changed them. The only benefit I have received has been to get the frames filled out at the bottom as well as the top, which I consider quite an object.

What I wrote sometime ago about taxing bees, has brought some inquiries. I did not intend to carry the idea that bees are not property. There are two classes of property—one absolute, the other qualified. Absolute property is that which is owned independent of any qualifications; qualified is such as circumstances and situation give the owner the right to it. The law taxes only the first-class, consequently bees cannot be taxed in any State unless that State makes a special law to that effect (as some States have concerning dogs), and then I think that they must be first considered as a nuisance.

A State ordering its supervisors to take statistics of bees, would no more make them taxable than the taking of the number of births would make children taxable. A man is liable for the damage which his bees do, just the same as he would be for the damage his dog does. If a man drives along the road by an apiary and the bees come out and sting his horse, causing damage, the owner of the bees is liable for the damage; but if a man hitches his horse to the fence and the bees sting it, the owner of the bees is not liable for damage; for the horse's owner is a trespasser, and a trespasser cannot claim damages unless he can show intent on the part of the owner of the property doing the damage.

Last spring I moved to this place all my farming utensils, teams, stock, furniture and bees and bee-fixings. I find this a good country, a healthy climate, best of water, and a very large open field for bees, there being only a few colonies in this section. We have some white clover, considerable basswood, and a vast amount of wild red raspberry which yields a great deal of honey, and in quality it is not excelled by basswood or white clover. Any unanchored bee-keeper would do well to explore this section before locating permanently.

Sherman,⊙ Mich.

◆

☞ The Cedar Valley Bee-Keepers' Association will hold its next meeting on Feb. 24 and 25, 1885, in the Council Rooms (opposite Burr's Hotel), Cedar Falls, Iowa. A. D. BENNETT, *Sec.*

For the American Bee Journal.

Indiana State Convention.

The Indiana State Bee-Keepers' Association was called to order at 1:30 p. m., Jan. 22, with Mrs. C. Robbins, President, in the chair, about 100 members being in attendance.

Following the reports of officers, came the President's address: "This is the sixth annual meeting of this Society, with all the varying scenes of life. The past year there has not been one member of the society, to our knowledge, removed by death." Mentioning her visits to several county society meetings, she continued: "Indiana has eleven societies, representing 15 counties of the 92 in the State. Plenty of work is yet to be done in the way of bringing the bee-keepers together, for by organization we hope to educate the old gum out and the new appliances in. Statistics for 1884 show 131,139 colonies of bees, 1,878,393 pounds of honey, an increase over 1883 of 52,613 colonies and 1,080,025 pounds of honey. Indiana has an area of 21,637,760 acres. The above number of colonies of bees would give about one colony of bees to each 164 acres, placing the question of overstocking in the far distant future. While our winter losses have been very heavy, we are very thankful that the dread foul brood has not as yet entered our State, though its hovering over our borders should make us doubly careful of its introduction.

"When we think of the many fruit trees of every kind, also the vast quantities of small fruit blossoms, the great number of forest trees that produce nectar, the acres of red, white and Alsike clover and the countless millions of wild flowers, we wonder that the honey yield is so small. The fact leads us to investigate the many causes of failure to secure a large crop, whether for lack of bees or in mismanagement in not having our bees ready to gather the nectar when secreted, or the many other causes that the several members of this Society will discuss and decide according to his or her locality. I believe that each year the bees have been able to board themselves and produce a small surplus. We have had but one bountiful harvest since the organization of this society. Although the bees have failed to store a large harvest of nectar, the bee-keepers, I am happy to say, have not failed to store away an amount of knowledge for future use that cannot be estimated in dollars and cents."

Referring to literature, she thought that the fact of the bee-keepers' supporting a weekly bee-paper is evidence of the extent of the industry. The work of Fairs and conventions reaches the mass that know but little of our literature. Complimenting the efforts of those who make displays at our Fairs, she recommended petitioning for the privilege of selling honey at the Fairs, as a source of educating the people to the uses to which honey could be applied. She warmly endorsed bee-keeping as suitable for women, for the pleasure as well as the profit of the labor.

A vote of thanks was given the President for her able address, and, on motion of Mr. Johnson, it was referred to a committee of 10, that action might be taken on the recommendations contained therein.

The election of officers resulted in the choice of Jonas Scholl, of Fayette county, as President; C. F. Muth, Cincinnati, Vice-President; Frank L. Dougherty, Secretary; Mrs. E. Stout, Treasurer; the two latter being their own successors.

President Scholl, on taking his seat, made some pleasant remarks. He thought that we should be thankful for all favors, though our last crop was but a partial one. We should not be discouraged, but take courage and prepare for others to come, for good crops would come as well as poor ones, and we should be ready for any emergency.

Prof. H. W. Wiley, National chemist, gave an address entitled "The Composition of Honey and its Adulteration."

APICULTURE AS A BUSINESS.

The first subject on the regular programme was then taken up. The Secretary did not wish to consider the business as an exclusive one. No matter what be the size of the apiary, the greater amount of the work must necessarily be confined to a few short months and he was of the opinion that a person who has the energy and push about him to look after an apiary of any size, would not be willing to quietly fold his arms and idle away the balance of the year, but would of necessity seek some other business to which he might devote the time not given to the bees. He was fully satisfied, taking one year with another, bees would pay fully as well as any of the kindred industries.

Mr. Scholl unites farming with bee-keeping. His aim was to make each of the crops on the farm pay as best he could, and he knew from actual records that his bees paid him equally as well or better than any of the other farm industries. Corn in his locality was almost a failure last season; 22 acres of wheat yielded him 450 bushels; his 60 colonies of bees had paid better than these; in fact, for 10 years past, the bees had paid better than any of his other crops.

Mr. Hutchinson would not like to depend on bees alone for a living, but in connection with other things he considered that they paid well.

Mr. Kenedy raises poultry in connection with bee-keeping and finds them to work well together.

Mr. T. S. Bull thought that bee-keeping paid well for the time and capital invested. As evidence of the fact he offered a tabulated statement, taken directly from his books, covering a period of 10 years, giving an annual net profit of $5.15 per colony in an apiary of 150 colonies.

Mr. Anderson raises berries, bees and poultry, and thinks that they work well together.

Mrs. Harrison, of Peoria, Ills., living in the city, makes it an imperative rule that each colony of bees pays its rent, and they do it. Mrs. H. was fully satisfied that she could support herself by keeping bees.

"Should a beginner procure bees in box hives and transfer them?" was discussed at some length with opinions about equally divided pro and con; and as to the "best race of bees," Italians were decidedly the favorites.

Comb foundation, with all the advantages to be gained by its use, was pretty thoroughly discussed, which led to the question, "is wiring necessary or desirable." Messrs. Muth, Davis and Gully did not see any necessity of wiring the frames. Messrs. Scholl, Reynolds, Leaming and the Secretary were decidedly in favor of wired frames. The differences in opinions led to a pretty thorough ventilation of the entire subject in hand and ended in a call for supper.

The meeting was again called to order promptly at 7:30 p. m. "Bee-Pasturage," followed next on the programme and Messrs. Davis and Gully, having paid considerable attention to this subject, were called on to give their opinions, which they did at some length, the subject being one of very great interest to bee-keepers.

Mr. Davis said: "Our principal experiment has been with the Simpson honey-plant or figwort. We have two acres of this plant, which we planted in hills 3½ feet apart and cultivated as corn. The plants began to bloom about July 1 and lasted until frost. While in this case we secured no surplus honey, we feel amply repaid for the trouble and outlay. We had extracted the honey very closely up to the cessation of white clover bloom, and as the season turned out very dry we should have had to feed extensively to save our bees. We are of the opinion that the figwort did not produce more than half of what may be expected of it under favorable circumstances, yet the bees worked on it from early to late, commencing before it was hardly light and ending only with darkness. It kept the bees breeding until late in the fall, filling their hives with stores and putting them in better condition for winter than they have been for several seasons past."

Mr. Kenedy had seen the before-mentioned patch of Simpson honey-plant, and thought the results very gratifying. As for himself he did not have land sufficient to try anything of the kind; but, instead, he prefers Alsike clover. He thought that every bee-keeper in the land could well afford to buy one-half bushel of Alsike clover seed and give it to any farmer who would plant it. He felt satisfied that as soon as farmers could be made to understand the value of Alsike clover it would almost entirely supersede red clover. It is a better forage crop, a better fertilizer, a better cropper all the way through than red clover.

Many honey-producing plants were suggested as worthy of cultivation in a small way or on waste land, and it was considered that a united effort on the part of bee-keepers might increase the honey-flora of the country tenfold with but little expense. Mr. Pugh and Mr. Dougherty expected the honey-producing trees and shrubs to be numbered by the hundreds at Leinden Place in the very near future.

The question of "Foul Brood" elicited the fact that up to the present time it had not made its appearance in Indiana, but as it joined us on the North and South we must be careful. Mr. Muth gave his experience with this dreadful scourge, until the meeting adjourned to 9:30 a. m., Jan. 23.

On re-assembling at the morning hour, President Scholl called the special committee, to which the recommendations of the retiring President, Mrs. Robbins, had been referred, who made the following report:

"Your committee to whom were referred the recommendations contained in the President's address, beg leave to report, first, that being informed by the Secretary that the actual and necessary expense of this Society is about $75 per annum, we report favorably on the recommendation that the membership fee should be raised to $1. We also report favorably on the recommendation that this Society petition the Legislature for a small appropriation to enable it to publish its proceedings and discussions, and believing such publication would be vastly beneficial to the people of our State—we therefore recommend the appointment of a committee of three to thus memorialize the Legislature, and that the delegates present from different parts of the State be requested to confer with their respective representatives and senators and urge such an appropriation.—S. Johnson, C. F. Muth, *Committee.*"

After a lengthy discussion as to the aims of the Society, the report of the committee was adopted. Following this came a paper by Prof. S. T. Virden, of Purdue University, on "The Sting of the Bee," illustrated with diagrams of the several parts greatly enlarged. Mrs. Lucinda Harrison, of Peoria, Ills., read a paper, "Work for Women;" and Mrs. Noe, president of the Women's State Fair Association, entertained the Society with a few pleasant remarks descriptive of the good work which had been done by the ladies at our State Fairs, they having commenced with a very small space in one corner of the building and enlarging their work, until next season they will occupy the entire second floor of the Exposition building. All honor is due to Indiana's State Board of Agriculture, it being the only one in the country allowing woman's participation in their labors.

Adjourned for the noon hour.

The afternoon session opened at 1:30, p. m., with President Scholl in the chair. Secretary Heron of the State Board was made an honorary member, as was, also, Mrs. Lucinda Harrison, of Illinois. Messrs. Cotton, Muth, Leaming, Dougherty, and Mrs. E. Stout were appointed delegates to the next National Convention to be held at Detroit next fall. The delegates were instructed to ask that Indianapolis be made the next place of meeting of the National Society.

Gov. I. P. Gray was introduced and addressed the meeting with a few well chosen remarks in which he favored the passage by the Legislature of very stringent laws against food adulteration.

The Secretary said: "In an address before the State Board of Agriculture, during the fall of 1880, I advocated the establishment of an apiary at Purdue University; Prof. Ingersol at that time thought it impracticable. Later, I offered to donate bees sufficient for the enterprise, renewing my offer each year. Prof. J. Troop, who is here, is willing to take the matter in hand, and members of the Society have expressed a willingness to contribute all the bees necessary. Messrs. Dougherty, Davis and Gully, Muth, Scholl, Bull and Leaming each donated one colony."

Following some preliminaries of the Society, the meeting adjourned *sine die*. F. L. Dougherty, *Sec.*
Jonas Scholl, *Pres.*

For the American Bee Journal.

Cause of Bee-Diarrhea.

W. C. STEDDOM.

After reading the many letters with regard to wintering bees, and the articles in support of the different theories as to the cause of bee-diarrhea, and comparing them with my own experience, and then summing up the points which do not directly conflict, I conclude that when we have so arranged our preparations that our bees will not overload themselves with food just previous to or during cool or damp weather while confined, we need not fear pollen, breeding in confinement, nor bother ourselves about the "shaft of air" beneath them.

On page 36, Mr. G. W. Demaree says: "I can produce *ascites* in bees at any time when they are handling new honey and preparing food for the young, by simply setting a case of sealed honey with the bees in it, in a cool, damp cellar." Last fall, while preparing my bees for winter, I took off a case mostly filled with honey, and finding a lot of bees in it, I tried to smoke them out, but as they were averse to leaving it, I placed them in the cellar, away from robbers, leaving a small opening through which the bees might pass out.

Forgetting the case, it remained two or three days, when I brought it out and found the bees still in it and scarcely able to crawl, their abdomens being much distended. Although the sun was shining bright and warm, they could not fly, so badly were they afflicted with diarrhea. On examining the honey, I found no pollen nor brood in the hive from which it was taken, so they could not have been preparing food for the young; neither were they young bees.

If some of the able writers on bee-culture will tell us how to prevent this undue loading with food, whether it be the result of excitement or from other causes, I believe that our wintering troubles will be much lessened.

Oregonia, ♀ O.

For the American Bee Journal.

Pollen, Reversible Frames, etc.

JAMES HEDDON.

Some correspondents are making bee-literature very lively for the subscriber. I must be wrong about almost everything regarding apiculture. How I have succeeded in producing honey in the past, or how I am to do so in the future, is beginning to look like a doubtful problem.

I read Mr. Corneil's fair, honest, and candid article, on page 55, with much pleasure. If the future says "the pollen theory must go," no one will be more ready to kick it out of the way of our progress than I. I have only put it forth as a theory, regarding which my observation and experience had pointed to as the correct one. Should it prove false (and I think this severe winter, in connecnection with the now prevailing experiments, will settle it), I can die easy in company with Prof. Cook, Dr. Mason and—and a score of other such men upon whose shoulders honest error always rests with much grace.

I had, of course, before read Mr. Corneil's compilation of statements negative to the pollen theory, but there are a larger number of statements arguing the other way which might also be arrayed against Mr. Corneil's aggregation; but why take up more space? Let it rest with future experiment; and if the pollen theory does go, I shall look toward Mr. Corneil as the man best fitted to tell us which way to look next.

Mr. Clarke is also willing to "calmly await the impending award;" so am I. I do not take up arms against a state of quietude, a condition long cherished by bee-keepers, a thing of no newness, but I do take up arms against the theory that bees hibernate in the sense that ants, wasps, and some squirrels do, and quite likely the very one that Mr. Clarke had in mind when he first started out, as he made the claim of something new, and told us that he wanted a low temperature changing with a higher one, to bring on this hibernation.

He says that the pollen theory blinds me so I cannot see through the hibernation theory; and Mr. Corneil says "the pollen theory must go." After it has gone, then if I cannot see through the hibernation theory, what then? I wonder if Mr. W. J. Davis is blinded by the pollen-theory.

Mr Stocking, in few years, will see the error of his ideas as put forth on page 55. I refer him to the market reports on page 50, where he will see that the success of a class of honey-producers in one part of the United States is the only reason given for the low price of honey. After awhile he will see the fact that supply and demand has its effects upon our products as well as all others.

Farmers who keep bees in Cass county are not as plentiful as they would have been if I had been of the same opinion as Mr. Stocking. As it is, they do put considerable honey upon the city market where I live. They often put it on at ruinous and foolish prices. Failing opposition is the worst in the world. By and by Mr. Stocking will discover that honey is not a modern commodity (nothing is new except the style of package and price), and will stop all talk about "educating the people" to the taste and value of a commodity as old as human nature. Honey is a luxury forever. Let bee-keepers go on, talk, lecture and write all they please about the "introduction" of honey, its wonderful health-giving properties, and the terrible effects of glucose, but the facts still remain that the consumers of the country consume barrels of the latter to quarts of the former; and it is my opinion that they always will. I have already passed through the stage in which Mr. S. is now, and when he gets clear through and sees his error, we should like to hear from him.

REVERSIBLE FRAMES.

I would say to Mr. Howes that I did mean to claim originality in the invention of the revervsible frame, which was illustrated and described on page 8. I may be in error, but I cannot now see in what way this frame infringes on his. Another thing of which I feel very confident, is that it will find favor when his will be discarded. Time will also settle this, perhaps.

Now, in what way are these frames alike, except insomuch that they are hinged in the middle? Neither one of them is the first frame that was ever hinged in the centre and had its bearings at the top. Neither are all three of these centre-hinged frames the first reversible frames. To whom belongs the original idea of reversing combs at all, I am unable to say. Be that as it may, Mr. Howes and I both borrow that, by general consent. He revolves his wood frame between two flat metal pieces (the samples which he mailed me were of tin), and these metal strips have wood or metal rests attached to them.

Where has Mr. Howes ever published or exhibited wood pieces for these side strips? I have never seen or heard of any such thing. His principle is to spring these side-pieces off, and then when the frame is revolved, let them spring back and lock there. My plan is to revolve a frame within a frame, getting rid of a glue complication (which I think will bother his style of frame badly), by the shears principle of at all times having the sharp corners of the frames shave by one and the other. Where, in Mr. H.'s style of frame is the valuable open space of ¾ of an inch below the centre of the end-piece?

Now, if Mr. Howes has made frames and illustrated them to the public, that had wood sides, that did not spring off and on, but worked on the shears principle, even though he had no outer top-bar fastened to them, I should say that the one I illustrated on page 9, was an infringement; because it had the shears principle and two widths of space between the end-bars and ends of the hives, which is a decided advantage over any straight end-bar, forming a regular bee-space; otherwise, not. If he has made them, and has given to bee-keepers any such frame, will he please say where and when? I am willing that bee-keepers shall decide it, and I will abide by the result.

Dowagiac, ♀ Mich.

For the American Bee Journal.

Are Bees Taxable in Illinois?

HENRY UNGER.

I would like to know whether there is a law in the State of Illinois assessing and taxing bees. If there is, who has the right to make such a law, the Legislature of the State or the assessors of each county? These two questions I would like to have answered through the BEE JOURNAL.

I have kept more or less bees for the last 20 years, and they never were assessed or taxed until last year. Then, on a fine day in June, the assessor of the Town of Flagg, Illinois, came to me with his book. Having asked all the questions about my personal property, he finally said: "How many bees have you?" I replied, "I cannot answer that question, for I have never counted them." He said, "That is'nt really the question I wished to ask. How many hives have you got?" I told him the number of hives in which I had bees, and then asked, who gave him the right to tax insects or bees, and where he could show me the law for doing so?

"Well," said he, "there is no law about it at all. All the assessors of Ogle county held a meeting, and the question, 'Are bees taxable?' came up, and they voted to tax bees." I then asked, "How high do you tax bees?" He answered, "From $1 to $2 a 'skip.'" I then said, "All right, 'skip' away then."

Now, fellow bee-keepers, look out for yourselves. My intention is to have the assessor count the number of bees in each hive and assess them by the head. The best way to count them would be for him to take hold of them by their rear end. I am satisfied that it would not take him long to count them.

Rochelle, ♂ Ills.

For the American Bee Journal.

Bees in Yucatan.

C. W. YOUNG.

In an interesting article on Yucatan, by Mrs. Alice D. LePlongeon, I find references to bees in that country, which are interesting.

Describing the ruins of the temple at Uxmal, the writer says: "The place swarms with life. During the months when no rain falls, every creature seems mad with thirst. There are millions of bees, quite harmless, yet very troublesome, for they swarm about one's face and make themselves most annoying. (They must be stingless, otherwise they would be more than simply annoying.) Wherever water is to be found, they go, throw themselves into it, and part with life for a drop. When they feel the dark waves closing over them, they doubtless repent of the rash deed, so, having taken a drink and a bath, they are very grateful if any one will ladle them out. Then they crawl away like turtles, to repeat, after awhile, the suicidal attempt. The hives of these harmless bees are most ingeniously built of clay, held together and made extremely hard by a secretion proper to the insect."

Speaking of the superstitions of the people, Mrs. Le Plongeon says that they suspend from the bee-hives *jicaras* filled with a drink called *zaca*, so that the bees may not abandon them, but may constantly bring honey, and their owners keep in good health.

I am sure that bee-keepers will thank the talented writer and naturalist for even this brief contribution to the history and habits of the insect in which they are so deeply interested. Possibly, if this should meet her eye, she might be induced to tell us more about bees in Yucatan. It may be that the harmless bees of Uxmal might be a desirable acquisition, and it would not cost as much to procure a colony of them as it did for Mr. Jones to get a few specimens of *Apis dorsata* in a phial of spirits from Java.

Stratford, Ont.

For the American Bee Journal.

Cedar Valley, Iowa, Convention.

The annual convention of the Cedar Valley Bee-Keepers' Association was held in Beckley's Hall, at Waterloo, Iowa, on Oct. 1 and 2, 1884. The convention was called to order on the first day at 2 p. m.

The President and Vice-President being absent, Mr. J. M. Bennett was elected President *pro tem*. The Secretary then called the roll and read the minutes of the last meeting, which were approved. The Treasurer then read his report, which was accepted. The following officers were elected for the ensuing year: President, C. P. Hunt; Vice-President, J. F. Spaulding; Secretary, A. D. Bennett; Treasurer, J. K. Oren. Adjourned to meet at 7 p. m.

The evening session was devoted to the discussion of the following questions:

"What is the best method of preventing increase?"

Mr. H. O. McElhaney makes nuclei from the strongest colonies by taking out frames of brood. Mr. A. D. Bennett thought that there would not be any difficulty if the bees were properly managed for comb honey. Mr. A. Quin would use an extractor.

"Are eight frames better than ten in an ordinary hive?"

Nine were thought to be the best, generally, for comb honey, and 20 for extracted.

"What is the best method of increasing colonies?"

Mr. A. D. Bennett would rear the queens, and then when the bees are in a normal condition, divide them and introduce the queens. Mr. H. O. McElhaney likes the nucleus system the best. Mr. J. K. Oren prefers to let his bees swarm naturally. Increasing by division was generally thought to be the best.

"Is it advisable to clip the queen's wing?"

Mr. E. A. Sheldon favors clipping the queen's wing. Messrs. J. K. Oren, A. D. Bennett, H. O. McElhaney and L. L. Triem do not favor it.

"What is the best plan to separate two or more swarms when clustered together?"

Jas. Rolston puts two hives close together and places the bees between the hives and makes half of them go into each hive. Mr. H. O. McElhaney would put them into a long box with empty combs in separate lots for as many as there are swarms, and leave them 12 hours, and they will separate themselves.

"Do bees build comb at will?" Mr. A. D. Bennett thinks that they secrete wax only when they need it. Adjourned until 8:30 on the next day.

The next session was called to order at 10 a. m., with J. K. Oren, President *pro tem*, in the chair.

"What is the best seed to plant for honey alone?" It was decided that sweet clover, motherwort and catnip, sown in waste places, would be a good thing.

"Does it pay to stimulate brood-rearing in the spring?" It was generally thought that it pays. Mr. E. A. Sheldon and others feed rye flour to stimulate brood-rearing. Mr. A. D. Bennett would give combs of honey or syrup set in the centre of the brood-nest. Mr. H. O. McElhaney uses a division-board feeder. Mr. J. K. Oren feeds his bees in troughs out-of-doors.

"What is the best way to introduce queens?"

Mr. E. A. Sheldon cages the queen in the hive for 24 hours, for cheap queens, but would also give a frame of brood with valuable queens. Mr. O. O. Poppleton practices putting in the queen and a frame of brood, direct, without caging them. Dr. Oren recommends driving the bees and then hiving them and the queen together. H. E. Hubbard uses Alley's cage with good success. A. D. Bennett thought that any of the ordinary ways of introducing queens would work when bees are in a normal condition to receive a queen.

"Does it pay to feed extracted honey to finish up sections at the close of the honey season?"

Dr. Oren thought that it would not pay. A. J. Norris thought that it would pay.

"Has any one used the zinc honey-board, and with what success?"

A. J. Norris said that he had used it with good success. O. O. Poppleton does not like them. Adjourned until 1:30 p. m.

At 2 p. m. the convention was called to order, and the discussion was continued.

"What is the best method to rear queens?" Messrs. O. O. Poppleton, E. A. Sheldon, A. D. Bennett and others practice the Alley system, except that they would cut out queen-cells one day sooner than he recommends.

It was decided to meet at Cedar Falls, Iowa, about the middle of February, 1885, the President and Secretary to decide as to the day of meeting.

A. D. Bennett, *Sec.*
C. P. Hunt, *Pres.*

For the American Bee Journal.

Bees Have Suffered Terribly.

W. MASON.

Mr. Vennor's almanac for 1885, says that we are to have a very open winter, but Christmas completely snowed the prediction under, chasing the mercury at low points several times, and to-day it is still snowing, with a heavy snow already on the ground. Stock of all kinds have wintered well, being clear of disease, and in a healthy condition. But, oh, the bees! how they have suffered! This county is, or was well populated with bees in the fall, but, from the effects of disease, and with the severe cold weather, the loss of bees has been fearful where they have been neglected both in treatment of disease and winter protection. Bees which were provided with proper protection, have not suffered so badly.

I have 47 colonies snugly stored in my bee-house. They were put in on Nov. 18, and on Jan. 9, they were put out and had a fly, although it was a little chilly. They showed some signs of bee diarrhea, but I think that the flight will keep them all right. I will give them another fly at the first opportunity.

This is my first experience in wintering bees in a bee-house, and I am well pleased so far, but I will report later. The bees all through here were peculiarly diseased; they would at times rush out of their hives in a pell-mell way, fluttering and running aimlessly about on the ground, some acting like a chicken with its head cut off; and then they would coil up and die as if stung by other bees. This continued in some apiaries until they all died, leaving plenty of stores. Some would swarm out and cluster and die there. I had 2 colonies that were in this condition, and I at once applied a treatment of burgamot well diluted with sweetened water with a few drops of carbolic acid added with a little salt, and gave them a thorough drenching, and I have had no more trouble in that line, and lost no bees.

I am more and more convinced by experience and reading that if we succeed we must know what is needed and how and when to supply that need, and at all times to know the true condition of our bees, or we will fail as we would in any other business when neglected. Does the successful stock raiser neglect the wants of his stock? If he does, he fails just as the bee-keeper does who neg lects his bees; so I am convinced that all who keep bees are not bee-keepers in the true meaning of the term bee-keeper.

Fillmore,+o Ind., Jan. 28, 1885.

For the American Bee Journal.

The Pollen Theory has Gone.

J. E. POND, JR.

On page 55, Mr. S. Corneil writes that "The pollen theory must go," and gives an amount of evidence in support of his position that must and will be accepted by the unprejudiced as *prima facie* if not absolute proof.

On page 58, Mr. C. L. Sweet brings forward still more evidence, and of the most direct and positive character. Now, unless we have something more than mere theory, with which to combat the evidence presented by these writers, the "pollen theory must go" most certainly; for it is impossible to controvert positive evidence with theoretical assumptions.

But we are pleased at last to see that no more discussion need be had on this question, for on page 60 we find that the pollen theory has gone. Mr. James Heddon there says: "Being aware, as Prof. Cook says, and as I have formerly said, that bees can winter well with *plenty of pollen* in the hive, if all other conditions are right." Here we have a direct admission from the author of the "pollen theory," that it is not correct. This, of course, ends the controversy, and bids farewell to the subject.

Foxboro,o+ Mass.

For the American Bee Journal.

A Bee-House Destroyed by Fire

C. THEILMANN.

On last Sunday one of my bee-houses was destroyed by fire. There were 87 colonies of bees in it. We got all the hives out before it was entirely burned down, but some of them are partly burned, and in about 20 the combs are all melted together, and in about 40 there were more or less live bees. In the 40 hives and the balance, the combs are good yet, with considerable honey in them, but it tastes very bitter. Probably not more than 10 colonies will live. It is the greatest wonder that they were not all smothered to death, as there must have been a dense smoke in the house for nearly three days. The floor was covered with about 4 inches of sawdust, which, with the floor, was nearly all burned, and the over-head and the sides were all on fire before we discovered it.

It was evidently set on fire by a spark of hot coal out of a pot which was put in for heating the room. The house was double-walled with about 6 loads of chaff between the walls and 2 loads on the upper floor. The door was threefold, and the pipes were all closed up. The covered pot was put on a piece of cast-iron 4 inches thick, on Thursday morning, and no smoke was discovered until Sunday morning. The hives were 4 tiers high, and in the 2 upper tiers no bees could be seen. I think that they all were driven out first by the smoke and fell into the fire, and those in the 2 lower tiers are the ones of which some may probably revive. Nearly all of my best queens were in this house. There was no signs of bee-diarrhea, not a speck can be seen on the combs, and the bees look very slim.

I have another bee-house with 44 colonies in which I put what bees were alive from the one which was burned. I also have a cave (Mr. Doolittle's plan) in which I have 60 colonies which seem to be wintering well, and if they come through all right, I will not be entirely out of bees, though it is grievous for a lover of bees to have his pets burned and smothered to death, not saying anything of the loss, which is about $500.

For the past two weeks we have had the coldest weather that I have ever seen in Minnesota; all the while the thermometer indicating a temperature of from 10° to 35° below zero. Can any one tell me how to take the bitter taste from the honey which was damaged by the smoke? Aside from that, it is nice honey.

Thielmanton,∼ Minn., Jan. 28, 1885.

For the American Bee Journal.

Fastening Foundation in Sections.

JOHN REY.

In reply to a correspondent, I will describe my method of filling and fastening foundation in sections.

I cut the comb foundation for the one-pound (4¼x4¼) sections 3½ inches wide and 4½ inches long; this will allow ¼ of an inch to fasten the comb foundation on the top of the section, and ¼ of an inch to fasten it on the bottom, and ¼ of an inch space on each side of the foundation, which gives the bees a chance to pass from one side of the foundation to the other; but by the time the bees have the section filled with honey, they have the sides all built up solid to the wood, and the top and bottom the same. In this way the section is completely filled all around, and it looks better and sells better, and it is better to ship a great distance than a section which is only filled to within ½ or ¼ of an inch of its bottom.

To fasten the foundation, I use a Parker foundation fastener, which is fastened to a work-bench. I then lay the comb foundation in the centre of the section, but a little nearer the fastener, just enough so it will fasten ¼ of an inch, and make it come in the centre of the section. By reversing the section, the other end is fastened in the same way, when I have a section which can be placed on the hives either end up, that is, if an open-end section is used.

I tried about 100 sections filled in this way, last summer, and I was so well pleased with them that I will put no other sections on my hives during this coming summer, even if I do have to buy a little more comb foundation. If any try this plan they will be repaid for the cost of all extra comb foundation, by receiving nice, well filled sections of honey which will stand a great deal of handling before the combs break loose from the sides of the section.

I think that I see two points in favor of fastening the foundation on both ends: 1, It insures straight combs fastened all around and sections completely filled without reversing them. 2. The comb foundation will not sag, stretch, kink or warp. As it is fastened at the top and bottom of the section, it has a sort of brace, and the bees do not cluster directly on the foundation, but half of them are on the foundation and half on the sides of the section, the ¼-inch space seeming to keep them busy fastening the foundation to the wood.

East Saginaw,⊙ Mich.

For the American Bee Journal.

Bee-Cellars, Report, etc.

CHAS. NORRIS.

In Nov. 1883 I put 31 colonies of bees into a newly made under ground cellar. It was built 16 feet square and 8 feet deep in sandy earth, and made frost-proof, where it was not influenced by any artificial heat. I partitioned off one-half of it with a tight, double-board partition, with a well fitting door in the middle for an entrance to the bee-apartment; and I made shelves 2 feet apart to set the bee-hives on. In the other apartment I kept my vegetables. I also built an 8x8-inch ventilating air-drain 3 feet under the ground, and 4 rods long, with the farther end 2 feet above the ground, and the other end entering the bee-apartment 2 feet below the ceiling. I also built a perpendicular ventilating tube of boards 12 inches square and 16 feet high, starting one foot above the cellar floor, and containing a ventilating valve to govern the draft. I kept the valve about ⅓ open all winter, and the thermometer ranged from 35° to 40° Fahr. up to May 5, 1884.

On May 10 I put the bees on the summer stands with the thermometer at 60° Fahr., and I found that I had 24 colonies that survived the winter dampness of a very damp cellar. Some of the exterior combs on the inside of the hives, that contained a fair quantity of live bees, had from 1 to 2 pints of clean, pure water in them on examination of the combs on the day of their first flight.

Soon after this I let my bees out on shares, and they increased, by dividing them, to 48 colonies by July 1, and they were given equal stores and brood at the same time. They soon ceased storing any honey, and stopped rearing brood, and began consuming the stores which they had on hand; and on Oct. 1 I examined them and found about half of them in a starving condition, with no pollen or bee-bread. I have since fed them 300 pounds of coffee A sugar diluted with ⅓ of its weight in water, which makes a syrup whose consistency is equal to that of honey, and just as good. The sugar cost me 7 cents per pound, and honey sold here, last fall, for from 15 to 20 cents per pound.

Up to the present date I find that 4 of my smallest colonies have died, and I expect to lose 2 more light ones soon, yet they are lively, and but a very few are found on the bottom of the hive. I clean the dead bees out about once in two weeks. This winter I have my bee-cellar supplied with a little artificial heat, keeping the temperature from 40° to 45° Fahr.

Norrisville,⊸ Mich., Jan. 28, 1885.

SELECTIONS FROM OUR LETTER BOX

Robber Bees.—N. L. Minor, a deaf-mute bee-keeper of Clarksville,♂ Mo., writes thus concerning robber bees:

I met one of my old friends lately, and we had a pleasant conversation regarding the plans of wintering bees. During the conversation, he told me that when he was a boy, his father, who was a pioneer, kept "gums" of bees; and when the bees were being robbed and were fighting, his father tried to separate them, thinking that they would kill one another, not knowing that they were being plundered. He would take a piece of cloth with which to cover his head, and then try to separate the bees which had fought all day.

Best Hive for all Purposes.—C. M. Davis, Denison City,♂ Tex., on Feb. 2, 1885, writes as follows:

One of my neighbors uses the following described hive: Length, 24 inches, with entrance in the centre; width 12 inches, and 12 inches deep, with a division-board in the centre, and ⅜ of an inch space at its bottom, allowing free access for the bees from one side to the other, consequently, the entrance being in the middle, it is free for the bees to enter on both sides, or one side, as the condition demands. One side is used exclusively for the brood, the other for surplus honey, with frames to fill each side. He has 125 colonies, and he says that he has tried his bees in the Langstroth two-story hive under like conditions, and found that his hive excels it. I am very favorably impressed with his hive, and think I shall try it unless I can find a better one. I have used the Langstroth hive for a number of years in Maine, and I think well of it. I have spent 3 winters in Texas. I was here during last summer and bought a few colonies of bees. Bees have not been confined to the hives for more than one week at a time on account of the cold weather. The pollen theory, with some, seems to conflict with nature. Bees never exist in a dormant state like the ant; they may get chilled and revive just the same as all animals, but when frozen, surely they cannot be brought back to life by any process.

Report, from B. E. Foster, Utica, N. Y., on Feb. 3, 1885:

In 1883 I put my bees into winter quarters on Nov. 27, having a fair amount of honey and pollen. One colony was weak in bees, and I thought I would see if it would live. On April 15, 1884, I put it out and to my surprise I found it had lots of bees and it was a good colony during the season. The same year I had 2 second-swarms which had their combs built only one-half way down and not much honey in them; these came out all right and were my best colonies during the past year, each producing 125 lbs. of honey, but they did not swarm. My bees were put into winter quarters on Nov. 28, having the combs ⅓ full of pollen. At present they are all in good condition.

Cold Weather and Quiet Bees.—W. R. Elwood, Lindley,♂ Mo., on Jan. 30, 1885, writes thus:

Winter still continues. Our weather prophets have proven to be false ones so far as cold weather is concerned in this locality (northwest Missouri). My bees seem to be wintering very well, if quietude is any sign, with the exception of one colony which appears to be somewhat uneasy and gnawing at the cushion. They have had but one flight since Dec. 4, 1884, and that was on Jan. 8. I thought I could detect some sign of bee-diarrhea, but being a novice in the bee-business, I may have been mistaken. I judged from the appearance of the feces voided on the white hives and on the snow. The discharges seemed to be very thin and of a dark, brown color, and having small pieces of comb and pollen mingled with it. The BEE JOURNAL binder came safely to hand, and I think that it is just the thing in which to preserve the different volumes of the BEE JOURNAL, so as to have them for reference when needed.

"Busy Bees" to be Photographed.—P. M. Puhl, South Toledo,⊸ O., writes as follows:

I second the motion to have the "Northwestern" of Chicago meet with the North American Society at Detroit, and all others to come that can be induced to do so, and I will make a large photograph of all the "busy bees" that may be present.

Bees Wintering Splendidly.—J. W. Bayard, Athens,⟜ O., on Feb. 3, 1885, says:

Our bees here broke ranks to-day, and are having a good fly, the first that they have had since about Jan. 12. They have wintered splendidly so far, for a bitter cold winter. All are on the summer stands without protection. The pollen theory may get a heavy polt over the head by this winter's experience. There is not the shadow of doubt, in my mind, but that bees can be wintered successfully either in cellars or on summer stands with trifling loss, with now and then an exceptional winter when some extraordinary freak of nature may upset the whole condition of things.

Fearing Great Loss of Bees.—J. G. Norton, Macomb, Ills., on Feb. 2, 1885, writes:

This has been one of the coldest winters known for a long time in this part of the State, the temperature going as low as 32° below zero; still, the bees which have plenty of stores, seem to be doing well on the summer stands. I hear of great loss of bees all over the country, but starvation seems to be the prime cause of this. A few bee-keepers report that the bees in cellars were very uneasy during the coldest weather, and they fear great loss by diarrhea, if no flight is given them soon. The chaff packing on the summer stands seems to be ahead as usual, and not one dead colony is reported thus far where bees are properly packed, but they are as bright and dry as I ever saw them at any time of the year. However, a great amount of feeding will have to be resorted to in this section, or the loss will be great before fruit bloom.

Report, from S. H. Waggoner, Godfrey,♀ Ills., on Feb. 2, 1885:

Bees did very poorly in this section during the past season. I began in the spring of 1884 with 30 colonies, increased them to 55 colonies, and secured about 400 lbs. of comb honey in one and two pound sections. I am now wintering about 40 colonies of Italians and hybrids on the summer stands.

Report, from Chas. Haas, Lower Salem,⟜ O., on Feb. 2, 1885:

The past season here was a very poor one for honey and bees, there having been only about one-half of a crop. I had an apiary of 29 colonies in the spring, increased them to 46 colonies, and I took 703 pounds of extracted honey. I will try producing comb honey next summer. My bees are all in a healthy condition at present. They had a flight on Jan. 29, and two or three flights before that time. I prefer wintering them on the summer stands, and I find that they winter well. I have them in the Root chaff hives, and keep cushions on top of the brood-frames. I fed them 500 pounds of extra C sugar last September. I hope for a better crop next summer, yet I am satisfied with the result of the past season.

Evidently an Oversight. — W. F. Clarke, Speedside, Ont., writes thus in explanation:

If Mr. W. J. Davis had carefully read the article on page 665 of the BEE JOURNAL for 1884, he certainly would not have penned the statements he makes on page 55 of the current volume, in regard to hibernation as defined by me. Nor, would he ask, "Will not Mr. Clarke find some other term to convey the idea intended by the word 'hibernation,'" because I have shown in the article overlooked by him, that the word is used in its legitimate and accepted scientific sense. Why should I coin a new name for that condition which naturalists unanimously agree to call 'hibernation'?

Report, from H. J. Smith, Burlington,⊙ Wis., on Feb. 4, 1885:

We have had a cold winter so far here, several times the mercury being as low as 26° below zero; but my bees are wintering well. In the spring of 1884 I had 81 colonies. I sold 21 of them, leaving me 60 colonies with which to commence the honey season. I increased them to 100 colonies by natural swarming, and obtained 800 pounds of comb honey and 2,700 pounds of extracted. It was not a very good season for honey. White clover yielded very well considering the cold, wet weather. We got no fall honey, although the weather was good. I hope that we will, this year, have an early spring, and a better summer than the last was. It was nice and warm yesterday, but to-day it is getting colder again.

Bees Paid Well.—H. M. Grove, Plum,⊙ Pa., on Feb. 2, 1885, says:

From 33 colonies, spring count, I obtained 1,700 pounds of comb honey and increased them to 49 colonies. My bees were not cared for as they should have been, as my health was very poor, and I had 5 acres of berries to look after, besides the general farm crops and stock on a farm of 180 acres; but with what care I gave them, with honey at 16 cents per pound, they made me more clear cash than any other branch of the farm. I shall try hard to do better next year. My honey was nearly all gathered from raspberry and white clover. We had a heavy frost on May 29 and 30, which killed the basswood.

Local Convention Directory.

Time and place of Meeting.

1885.

Feb. 11.—Seneca Co., N. Y., at Ovid, N. Y.
Ira Wilson, Sec., Ovid, N. Y.

Feb. 17.—Ohio State, at Columbus, Ohio.
C. M. Kingsbury, Sec., Mt. Vernon, O.

Feb, 18.—E. Iowa and W. Ills., at Davenport, Iowa.
Wm. Goos, Sec., Davenport, Iowa.

Feb. 18, 19.—Eastern New York, at Albany, N. Y,
Solomon Vrooman, Pres., Seward, N. Y.

Feb. 21.—Marshall County, at Marshalltown, Iowa.
J. W. Sanders, Sec., LeGrand, Iowa.

Feb. 24-26.—International, at New Orleans, La.

Feb. 24, 25.—Cedar Valley, at Cedar Falls, Iowa.
A, D. Bennett, Sec., Waterloo, Iowa.

Mar. 11.—New Jersey and Eastern, at N. Y. City.
W. B. Treadwell, Sec., 16 Thomas St., New York.

April 3.—N. E. Kansas, at Hiawatha, Kans.
L. C. Clark, Sec., Granada, Kans.

Apr. 28.—DesMoines County, at Burlington, Iowa.
Jno. Nau, Sec., Middleton, Iowa.

May 4.—Linwood, Wis., at Rock Elm Centre, Wis.
B. Thomson, Sec., Waverly, Wis.

May 7.—Progressive, at Bushnell, Ills.
J. G. Norton, Sec., Macomb, Ills.

May 28.—N. Mich. Picnic, near McBride, Mich.
F. A. Palmer, Sec., McBride, Mich.

June 19.—Willamette Valley, at La Fayette, Oreg.
E. J. Hadley, Sec.

Dec. 8—10.—Michigan State, at Detroit, Mich.
H. D. Cutting, Sec., Clinton, Mich.

☞ In order to have this table complete, Secretaries are requested to forward full particulars of time and place of future meetings.—Ed.

Convention Notices.

☞ The third annual convention of the Eastern Iowa and Western Illinois Bee-Keepers' Association will meet at Moore's Hall, Davenport, Iowa, on Feb. 18, commencing at 10 a. m., and lasting two days. Bee-keepers' headquarters will be at the Newcomb House, where rates have been reduced to $1.50 per day. Honey, beeswax, or apiarian supplies for exhibition should be sent to I. Hall, who will take charge of them, at the depot or express office, and return the same as owner may direct. It is expected that this will be the largest and most interesting meeting ever held in the State. Everybody invited to attend.
I. V. McCagg, *Pres.* Wm. Goos, *Sec.*

☞ The Eastern New York Bee-Keepers' Association will hold its annual convention at Albany, N. Y., in Horticultural Hall, on Wednesday and Thursday, Feb. 18 and 19, 1885. Three sessions will be held each day. The first session beginning at 10 a. m., on Feb. 18.
Solomon Vrooman, Pres.

☞ The second annual meeting of the Seneca County Bee-Keepers' Association will be held in the Engine House at Ovid, N. Y., on Feb. 11, 1885, at 9 a. m. All interested are cordially invited to attend, and make the meeting as profitable as possible. All implements of the apiary sent to the Secretary will be exhibited at the meeting, and will be disposed of or returned as the owner directs.
Ira Wilson, Sec.

☞ We had a regular Iowa blizzard on Jan. 16 and 17, which made travel either by sleigh or rail almost impracticable; therefore, the Marshall County Bee-Keepers' Association failed to have a meeting on Jan. 17, 1885, as announced. It will meet at the Court House in Marshalltown, Iowa, on Feb. 21, 1885, at 10:30 a. m. The programme will be the same as announced for the Jan. 17 meeting. All having any thing of interest to apiarists are requested to bring it along. A general invitation is extended. J. W. Sanders, *Sec.*

☞ The Willamette Valley Bee-Keepers' Association will hold its second meeting at La Fayette, Oregon, on the third Tuesday in June, 1885. All who are interested are invited to attend.
E. J. Hadley, *Sec.*

☞ The Progressive Bee-Keepers' Association of Western Illinois will meet in Bushnell, Ills., on Thursday, May 7, 1885. Let every bee-keeper who can, be present and enjoy the meeting. J. G. Norton, *Sec.*

☞ A bee-keepers' association was formed at Grundy Centre, Iowa, on Jan. 31, 1885, to be known as "The Grundy County Bee-Keepers' Association." The officers of the Association are: J. R. Martz, President; D. A. Palmer, Vice-President; O. A. Newton, Secretary; O. J. Little, Treasurer.

☞ The Ohio bee-keepers will hold their annual convention in the Agricultural Room of the State House at Columbus, Ohio, on Feb. 17, 1885. All subjects pertaining to bee-culture will be discussed, more especially those of spring and summer management of bees. Eminent speakers will be in attendance. All are cordially invited.
C. M. Kingsbury, Sec.

The International Congress.

The Convention will assemble at 10 a. m. in the Lecture Hall on the Exposition Grounds. Among the subjects which will be considered during the sessions of the Convention will be reports of the honey resources and production of America and Europe; preparation of honey for market; transportation; lower rates of freight; marketing; the advantages of the use of comb foundation; sections, the best size and the best way to use them; the best race of bees for America; prevention of swarming; fertilization of queens; bee-pasturage; bee-keeping as a pursuit; besides the discussion of other questions of interest that will be propounded. Essays to elicit discussion are expected from some of the most prominent bee-keepers of Europe and America.

Bees and bee-keepers' supplies for exhibition must be sent with *all freight prepaid*, and directed to Maj. E. A. Burke, Director General of the Exposition, for Department of Agriculture, New Orleans, La. The Board of Management of the Exposition has established a Department of Information and Accommodation, at Nos. 164 Gravier and 15 Union streets, for the purpose of furnishing visitors with information as to suitable board and lodging houses, or furnished rooms with directions how to reach them. For such service no charge is made.

Bee-keepers, on arrival in the city, are advised to go at once to the office of this department and make the best arrangements that they can for quarters, and if they will leave their cards and address at the same place, their friends will know where to look for them. The most of the visitors to the Exposition find it best and cheapest to rent rooms and take their meals at restaurants. Furnished rooms will cost from 75 cents to $1 for each person, per day, and board and lodging about double these rates. We are assured that the hotels have not advanced their rates, which are $2 to $3, according to location of rooms, etc.

Dr. J. P. H. Brown, Augusta, Ga.
Dr. N. P. Allen, Smith's Grove, Ky.
W. Williamson, Lexington, Ky.
Dr. O. M. Blanton. Greenville, Miss.
P. L. Viallon, Bayou Goula, La.
Judge W. H. Andrews, McKinney, Tex.
W. S. Hart, New Smyrna, Florida.
S. C. Boylston, Charleston, S. C.
H. C. Austin, Austin's Springs, Tenn.
R. C. Taylor, Wilmington, N. C.
J. W. Porter, Charlottesville, Va.
S. Valentine, Hagerstown, Md.

☞ The New Jersey and Eastern Bee-Keepers' Association will hold their next annual convention at Cooper Union, in New York City, beginning on Wednesday, March 11, 1885, and to continue two days or more. The committee promises a good programme, and extends a cordial invitation to all.
W. B. Treadwell, Ass't. Sec.

☞ For two subscribers for the Weekly Bee Journal (or 8 for the Monthly) for one year, we will present a Pocket Dictionary, and send it by mail postpaid.

Special Notices.

☞ We often get a number of notices and advertisements on Mondays, intended for the next Bee Journal. As we close the forms on Saturdays, all such notices *must be here* on Saturday morning, or cannot appear until the following week.

◆

☞ Our rates for two or more copies of the book, "Bees and Honey," may be found on the Book List on the second page of this paper. Also wholesale rates on all books where they are purchased "to sell again."

◆

☞ To Canadian subscribers let us say that we have made arrangements so that we can supply the *Farmer's Advocate* of London, Ont., and the Monthly Bee Journal for one year at $1.25 for the two.

◆

☞ Do not forget to send for a Binder in which to file your Journal and thus have the full benefit of it during the whole year.

◆

☞ The long winter evenings will be well occupied by reading bee literature. When renewing your subscription, it will be well to get some good bee-books. See our list of books on the second page and select what you need.

◆

☞ Every subscriber is kindly invited to obtain a *new* subscriber to send with his renewal. Please notice the premiums offered for clubs, on another page.

◆

Fruit Growing.—We have received a copy of an illustrated pamphlet of 64 pages, entitled "How to Propagate and Grow Fruit," by Chas. A. Green, editor of the *Fruit Grower*, Rochester, N. Y. Price 50 cents. To any one sending us a new subscriber for the Weekly or 4 for the Monthly, besides his renewal for either edition, we will present a copy of this book.

◆

Apiary Register—New Edition.

All who intend to be systematic in their work in the apiary, should get a copy and commence to use it. The prices will hereafter be as follows:

For 50 colonies (120 pages)......	$1 00
" 100 colonies (220 pages)......	1 25
" 200 colonies (420 pages)......	1 50

The larger ones can be used for a few colonies, give room for an increase of numbers, and still keep the record all together in one book, and are therefore the most desirable ones.

CLUBBING LIST.

We will supply the **American Bee Journal** one year, and any of the following Books, at the prices quoted in the last column of figures. The first column gives the regular price of both. All postage prepaid.

	Price of both.	*Club*
The Weekly Bee Journal,................	$2 00.	
and Cook's Manual, latest edition	3 25..	3 00
Bees and Honey (T.G.Newman) cloth	3 00..	2 75
Bees and Honey (paper covers)......	2 75..	2 50
Binder for Weekly Bee Journal.....	2 75..	2 50
Apiary Register for 100 colonies	3 25..	3 00
Dzierzon's New Bee Book (cloth)....	4 00..	3 00
Dzierzon's New Book (paper covers)	3 50..	2 75
Quinby's New Bee-Keeping.	3 50..	3 25
Langstroth's Standard Work.........	4 00	3 75
Root's A B C of Bee Culture (cloth)	3 25..	3 10
Alley's Queen Rearing................	3 00..	2 75
The Weekly Bee Journal one year		
and Gleanings in Bee-Culture (A.I.Root)	3 00..	2 75
Bee-Keepers' Magazine (A.J.King).	3 00..	2 75
Bee-Keepers' Guide (A.G.Hill)......	2 50..	2 35
Kansas Bee-Keeper........	3 00..	2 75
The Apiculturist, (Silas M. Locke)..	3 00..	2 90
The 6 above-named papers..............	6 50..	6 00

THOMAS G. NEWMAN,
925 West Madison Street., **Chicago, Ill.**

◆

☞ As a means of recognition, bee-keepers going to New Orleans should wear Badges. It will help to make acquaintances, and add much pleasure to the trip. We have made a lot, having, besides the gold bee, the words "New Orleans Bee-Keepers' Congress" in large gold letters. Price 10 cents; also some with a rosette and gold fringe, price 50 cents.

The regular price of a ticket from Chicago to New Orleans and return by any route, is $20; but "return tickets" have been sold by "scalpers" as low as $12. The regular tickets can be obtained at any railway ticket office in the Northern States, at a correspondingly low rate. The others can be "picked up" occasionally.

◆

☞ A well-known New York seed firm has now on deposit in the Mercantile Safe Deposit Company's vaults 400 lbs. of Henderson's Snowball Cauliflower Seed, which at the selling price of $100 per lb. shows the value of this seed to be $40,000. Not only is this plan of depositing in vaults found to be cheaper than insurance, but what is of more importance is that if the seed should be destroyed by fire this quantity necessary for their trade could not be replaced at any price in time for the spring sales. When it is considered that 400 lbs. of Cauliflower seed will, under favorable conditions, produce nearly thirteen million plants, which when headed for market and sold at even 8 cents per head, will produe the sum of three quarters of a million dollars, the value this vegetable has attained in this country, where 25 years ago it was almost unknown, becomes readily apparent.

◆

Catalogues for 1885.—We have received the following:

T. F. Bingham, Abronia, Mich.
F. A. Snell, Milledgeville, Ill.
Dr. G. L. Tinker, New Philadelphia, O.
Henry Alley, Wenham, Mass.
J. W. Eckman, Richmond, Tex.
Geo. F. Williams, New Philadelphia, O.
Emil Kratz, Hochheim-Erfurt, Germany.
Arthur Bryant, Princeton, Ill.—apples.

Farmer's Account Book.

This valuable book contains 166 pages, is nicely printed on writing paper, ruled and bound, and the price is $3.00. It can be sent by mail for 24 cents extra.

We can supply these books at the publisher's price, or will make a **present** of one copy for every club of TEN subscribers to the Weekly Bee Journal for one year, with $20. Four subscribers to the Monthly will count the same as one for the Weekly.

Now is the time to get up Clubs. Who will work for a copy of this valuable book.

NEW ORLEANS EXPOSITION.

VISITORS to the Exposition should write to the Secretary of the Illinois Exhibitors' Association, No. 115 Customhouse St., New Orleans, La., for a guide and instructions about rooms, board, etc., as it will save them money. Enclose postage stamps for return answer, and state how many rooms are wanted.

HONEY WANTED.—I want one or two tons of **White Clover Extracted Honey**, put up in 200-pound Kegs. Parties wishing to **TRADE** such for Bee-Keepers' **SUPPLIES** are invited to correspond with me. **ALFRED H. NEWMAN,**
923 West Madison St., CHICAGO, ILL.

WANTED!---A BEE-MAN.

Address **WILLIAM HUNT,**
6A1t CENTRE POINT, Linn Co., Iowa.

Dadant's Foundation Factory, wholesale and retail. See Advertisement in another column.

DR. FOOTE'S
HAND-BOOK OF HEALTH,
HINTS AND READY RECIPES,

is the title of a very valuable book that gives a great amount of information, of the Utmost Importance to Everybody, concerning their daily habits of Eating, Drinking, Dressing, Sleeping, Bathing, Working, etc.

It Costs only TWENTY-FIVE CENTS, and contains 28 pages, and is sent by mail, post-paid, on receipt of price. This is just the Book that every family should have.

IT TELLS ABOUT

What to Eat,
How to Eat it,
Things to Do,
Things to Avoid,
Perils of Summer,
How to Breathe,
Overheating Houses,
Ventilation,
Influence of Plants,
Occupation for Invalids,
Superfluous Hair,
Restoring the Drowned,
Preventing Near-Sightedness,
Parasites of the Skin,
Bathing—Best way,
Lungs & Lung Diseases,
How to Avoid them,
Clothing—what to Wear
How much to Wear,
Contagious Diseases,
How to Avoid them,
Exercise,
Care of Teeth,
After-Dinner Naps,
Headache, cause &
Malarial Affections,
Croup—to Prevent.

IT TELLS HOW TO CURE

Black Eyes, Boils, Burns, Chilblains, Cold Feet, Corns, Coughs, Cholera, Diarrhœa, Diphtheria, Dysentery, Dandruff, Dyspepsia, Ear Ache, Felons Fetid Feet, Freckles, Headache, Hiccough, Hives Hoarseness, Itching, Inflamed Breasts, Ivy Poisoning, Moles, Pimples, Piles, Rheumatism, Ringworm, Snoring, Stammering, Sore Eyes, Sore Mouth, Sore Nipples, Sore Throat, Sun-stroke, Stings and Insect Bites, Sweating Feet, Toothache, Ulcers, Warts, Whooping Cough, Worms in Children.

It will Save Doctor Bills!

Price only 25 Cents. Sent by Mail, post-paid,
THOMAS G. NEWMAN,
925 West Madison Street, CHICAGO, ILL.

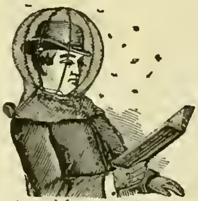
Vandervort Foundation Mill.

6 Inch, Price, $25.00.

It makes the finest extra thin Foundation for comb honey. For Sale by

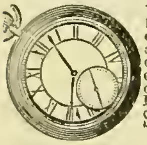
ALFRED H. NEWMAN.
923 West Madison Street, CHICAGO, ILL.

A NEW BEE-VEIL.



There are five cross bars united by a rivet through their center at the top. These bars are buttoned on to studs on the neck-band. The bars are of best light spring steel; the neck-band of best hard spring brass; the cover is of handsome light material. It is very easily put together, no trouble to put on or take off, and folds compactly in a paper box 6x7 inches by one inch deep. There would be no discomfort in wearing it either day or night, and the protection against Mosquitoes, Flies, Bees, Gnats, etc., is perfect. The weight of the entire Veil being only five ounces. **Price, by Mail or Express, $1.00.**

ALFRED H. NEWMAN,
923 West Madison Street, Chicago, Ill.



We will send you a watch or a chain **BY MAIL OR EXPRESS**, C. O. D., to be examined before paying any money and if not satisfactory, returned at our expense. We manufacture all our watches and save you 30 per cent. Catalogue of 250 styles free. Every Watch Warranted. Address

STANDARD AMERICAN WATCH CO.,
PITTSBURGH, PA.
46A26t

Muth's Honey Extractor,

Square Glass Honey Jars, Tin Buckets,
Langstroth Bee-Hives, Honey-Sections, etc.

Apply to **C. F. MUTH,**
976 and 978 Central Ave., **CINCINNATI, O.**

☞ Send 10c. for Practical Hints to Bee-Keepers.

HELP for working people. Send 10 cents postage, and we will mail you *free*, a royal, valuable sample box of goods that will put you in the way of making more money in a few days than you ever thought possible at any business. Capital not required. You can live at home and work in spare time only, or all the time. All of both sexes, of all ages, grandly successful. 50 cents to $5 easily earned every evening. That all who want work may test the business, we make this unparalleled offer: To all who are not well satisfied we will send $1 to pay for the trouble of writing us. Full particulars, directions, etc., sent free. Immense pay absolutely sure for all who start at once. Don't delay. Address STINSON & CO.
51A1y Portland, Maine.

65 *ENGRAVINGS*

THE HORSE,

BY B. J. KENDALL, M. D.

A TREATISE giving an index of diseases, and the symptoms; cause and treatment of each, a table giving all the principal drugs used for the horse, with the ordinary dose, effects and antidote when a poison; a table with an engraving of the horse's teeth at different ages, with rules for telling the age of the horse; a valuable collection of recipes, and much valuable information.

Price 25 cents.—Sent on receipt of price, by

THOMAS G. NEWMAN,
925 West Madison Street, CHICAGO, ILL.

The Bee-Keepers' Supply Company,

Of New Comerstown, Ohio.

THE above company has been incorporated under the laws of the State of Ohio, with a Capital Stock of $30,000, with A. M. Beers, W. R. Shields, A. E. Munn. R. L. Shoemaker, and S. F. Timmons as incorporators. The stock of said company will be divided into 1,500 shares of 20 dollars each. Books will be open for subscription to the above stock, on Monday, Feb. 23, 1885, at New Comerstown, Ohio. Ten per cent. of stock subscribed payable at time of subscription; twenty per cent. payable monthly thereafter. provided that all stock must be paid in full by September 15, 1885. Provided, further, that full payment of stock subscribed may be made at any time before due. Remittance for stock duly acknowledged and certificate of same issued when paid in full. Remit by Express, N. Y. Exchange, Registered Letter, or P. O. Money Order. Address all communications to the above Company.

Bee-Keepers' Supplies.

WE have added to our LARGE FACTORY a **SPECIAL DEPARTMENT** for the

Manufacturing of Bee-Hives,

AND

White Poplar Dovetailed **SECTIONS.**
Also, One and Two-piece

☞ All Orders will be filled promptly at the **LOWEST FIGURES,**

Send Stamp for Catalogue and Samples.

The H. F. MOELLER M'f'g Co.
1A26t DAVENPORT, IOWA.

BEES **For Pleasure and Profit.** A New Book of 172 pages, profusely illustrated, by Rev. Wm. Ballantine. Prices, 50 an 1 75 cents. Address the author at
1A5t New Concord, Muskingum Co., Ohio.

THE

VICTOR HIVE

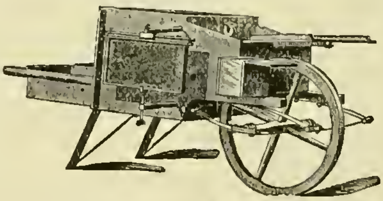
is operated upon a new principle by which the sections are placed in vertical lines with the brood frames; continuous passages being effected in a

Practical Manner!

It may be arranged for any form of the Langstroth Frame; has been fairly tested, and is the **Best Hive** made for Comb Honey. May be used for Extracting. Send for my 24-page Catalogue and Price List. Address

DR. G. L. TINKER,
1Atf NEW PHILADELPHIA, O.

SYSTEMATIC AND CONVENIENT.



DAVIS' PATENT HONEY CARRIAGE,
REVOLVING COMB-HANGER,
Tool Box and Recording Desk Combined.

Price, complete, only............$18.00.

For sale by **ALFRED H. NEWMAN,**
923 West Madison Street, CHICAGO, ILL.

$200,000 *in presents given away.* Send us 5 cents postage, and by mail you will get *free* a package of goods of large value, that will start you in work that will at once bring you in money faster than anything else in America. All about the $200,000 in presents with each box. Agents wanted everywhere, of either sex, of all ages, for all the time, or spare time only, to work for us at their own homes. Fortunes for all workers absolutely assured. Don't delay. H. HALLETT & Co.
51A1y Portland, Maine.

ATTENTION, BEE-KEEPERS!

AS I have greatly increased my facilities for the **Manufacture of APIARIAN SUPPLIES**, it will be to your advantage to send for my **Illustrated Price List.** Free to all. **Cash paid for Beeswax.**

A. B. HOWE,
5A3t COUNCIL BLUFFS, IOWA.

BEESWAX.

I pay **25c.** per pound delivered here, for yellow Beeswax. To avoid mistakes, the shipper's name should always be on each package.

ALFRED H. NEWMAN,
923 West Madison St., CHICAGO, ILL.

Sixth Thousand Just Published!

New and Enlarged Edition

OF

BEES and HONEY,

OR THE

Management of an Apiary for Pleasure and Profit; by

THOMAS G. NEWMAN.
Editor of the Weekly Bee Journal.

925 West Madison Street, Chicago, Ill.

It contains 220 profusely illustrated pages, is "fully up with the times" in all the improvements and inventions in this rapidly developing pursuit, and presents the apiarist with everything that can aid in the successful management of the Honey-Bee, and at the same time produce the most honey in its best and most attractive condition.

PRICE—Bound in cloth, $1.00; in paper covers, 75 cents, postpaid.

☞ **A Liberal Discount to Dealers, by the Dozen or Hundred.**

☞ The Monthly BEE JOURNAL for a year and the pamphlet "Bees and Honey," will both be sent for $1.

Our Club List.

Subscription price of each periodical named below.			Combination price with our paper. Both Periodicals for
1 00	Boston Globe	w	3 00
2 50	" Every Other Saturday, *Lit.*	s-m	4 10
1 50	" Our Little Ones, (*O. Optic*)	m	3 25
4 00	Chicago Current, *Literary*	w	5 20
1 50	" Drovers' Journal	w	3 40
1 50	" Farmers' Review	w	3 20
1 00	" Herald, *Independent*	w	2 85
1 00	" Inter-Ocean, *Republican*	w	3 00
2 50	" " "	s-w	4 40
2 50	" Religio-Phil. Jour., *Spirit.*	w	4 10
2 00	" Skandinaven, *Swedish*	w	3 85
2 00	" Staats-Zeitung, *German*	w	3 80
2 25	" Svenska Tribunen, *Swed*	w	4 00
2 50	" Standard, *Baptist*	w	4 35
1 25	" Times, *Democratic*	w	3 20
1 00	Cincinnati Times-Star, *Ind*	w	3 00
1 15	" Enquirer, *Democratic*	w	3 15
1 25	" Gazette, *Republican*	w	3 05
1 00	Detroit Free Press, *Family & Lit.*	w	3 00
1 00	Kansas City Journal, *Republican*	w	3 00
1 00	" Times, *Democratic*	w	3 00
1 50	Louisville Courier-Journal, *Dem.*	w	3 30
2 00	Milwaukee Peck's Sun, *Humor*	w	3 85
1 50	New York Am. Agriculturist	m	3 10
4 00	" Art Amateur	m	5 25
1 50	" Christian Herald, *Ills.*	w	3 20
4 00	" Century, *Literary*	m	5 70
2 00	" Demorest, *Ladies*	m	3 70
1 75	" Golden Argosy, *Lit.*	w	3 25
2 50	" Graphic, *Illustrated*	w	4 00
4 00	" Harpers' Weekly, *Illus.*	w	5 40
2 50	" Leslie's Sunday Mag.	m	4 20
5 00	" North Amer. Review	m	6 30
2 00	" Phrenological Journal	m	3 75
2 00	" Rural New Yorker	w	3 85
2 20	" Scientific American	w	4 95
1 00	" Times, *Ind. Republican*	w	3 00
1 25	" Tribune, *Republican*	w	3 10
1 00	" World, *Democratic*	w	3 10
2 00	Philadelphia Call, *Lit. & Humor*	w	4 00
2 00	" Arthur's Home Mag.	m	3 50
2 00	" Godey's Lady's Book	m	3 70
3 00	" Hearthstone, *Fiction*	w	4 25
2 00	" Peterson's Magazine	m	3 60
2 00	" Practical Farmer	w	3 25
1 00	" Press, *Republican*	w	3 00
1 50	Washington National Tribune	w	3 00

THOMAS G. NEWMAN,
925 West Madison St., Chicago, Ills.

WEEKLY EDITION
OF THE
AMERICAN
ESTABLISHED IN 1861
OLDEST BEE PAPER IN AMERICA
BEE JOURNAL
PUBLISHED BY
THOMAS G. NEWMAN,
EDITOR AND PROPRIETOR,
925 WEST MADISON-STREET, CHICAGO, ILL.
Weekly, $2 a year ; Monthly, 50 cents.

Vol. XXI. February 18, 1885, No. 7.

Frost Work on the Window.

ELLA J. MEADE.

Mountains and valleys, blossoming trees,
  Temple, cathedral, fane,
Beautiful flowers, and birds, and bees—
  All on the window-pane ;
Done by a painter whose name is known
  Only by matchless art—
Mystical touch of an icy hand,
  Breath of a frozen heart.

Rivers of crystal and trees of life,
  Heavenly mansions fair,
Love and its joys where there is no strife—
  All of these "Over There ;"
Only revealed by the icy hand
  And by the frozen breath
Of the mysterious pow'r we name
  King of all Terrors—Death.

—*Chicago Tribune.*

☞ On the 9th inst. the Bingham Smoker Factory caught fire—and all "ended in smoke." It was partly insured. Fortunately, Mr. Bingham had his finished smokers stored in another building.

☞ Mr. W. B. Stephens, of Steuben Co., N. Y., has sent us a sample of a reversible frame. It is similar to Novice's tin point, but the tin runs to the centre of the outside of the side-bar, and is there fastened with a wire nail clinched, and reverses on that pivot.

☞ A periodical in the Golden State says that "A bee-keeper at Riverside, Calif., has 33 colonies of bees which produced, during the last season, 7¼ tons of honey, an average of nearly 440 pounds to the colony.

☞ The winter meeting of the Bay of Quinte Bee-Keepers' Association will be held at the City Hall, Belleville, Ont., Feb. 26, 1885, at 1 p. m.

Names That Mislead.

The Providence *Journal* calls attention to some curiosities of misnomer: "Black lead" is not lead at all, but a compound of carbon and a small quantity of iron.

"Brazilian grass" never grew in Brazil, and is not grass ; it is nothing but strips of Palm leaf.

"Burgundy pitch" is not pitch, and does not come from Burgundy ; the greater part of it is resin and Palm-oil.

"Catgut" is made from the entrails of sheep.

"Cuttle-bone" is not bone, but a kind of chalk once enclosed in the fossil remains of extinct specimens of cuttle-fish.

"German silver" was not invented in Germany, and does not contain a particle of silver.

"Cleopatra's needle" was not built by the Egyptian queen, nor in her honor.

"Pompey's pillar" had no historical connection with Pompey in any way.

"Sealing-wax" does not contain a particle of wax, but is composed of Venice turpentine, shellac and cinnabar.

The "tube-rose" is not a rose, but a species of Polianthes.

"Turkish baths" did not originate in Turkey, and are not baths, but heated chambers.

"Whalebone" is not bone, and is said not to possess a single property of bone.

In the vocabulary of Bee-Keeping we find similar misnomers: "Artificial Comb" is not comb at all, but refers to sheets of wax, with corrugations, marking out the bases of the cells on either side.

An "Artificial Swarm" is not a swarm, but one part of a divided colony of bees.

"Candied Honey" is not "incrusted or preserved with sugar," but pure honey granulated.

"Dollar Queens" are not queens in any sense of the word—they are female bees which *may* become mothers, but will never "reign like a queen;" neither are they always sold for a dollar, the price varying from $1.50 in the spring, to 50 cents in the fall.

"Grape Sugar" is not "sugar," neither is it obtained from grapes, but from corn by the action of sulphuric acid.

"Honey-Dew" is neither honey nor dew, but exudations from plant-lice, aphidæ, etc.

Many other "names that mislead" may be enumerated, but these curiosities of apicultural misnomer are sufficient to show that there is a great necessity for "calling things by their right names."

Dead Bees on the Snow.

In reply to an enquiry in the *Prairie Farmer*, Mrs. L. Harrison remarks as follows :

> It is an immutable law of nature that all living things must die, and bees are no exception to the rule. During the working season, the limit of bees' lives is about 90 days ; during hibernation it is much longer. Among the lower animals, as death approaches, it appears that their instinct is to withdraw from their fellows and die in retirement. The loss of bees by flying out and dropping in the snow is only trivial ; the major part seen lying in the snow, died in the hive, and were carried out by their companions. It will not do to stop up the entrances ; it is necessary for them to be open, so that, if mild days occur, the bees can fly out for cleansing ; and also have an opportunity to carry out the dead, so that the air in the hive may be kept pure. If the hive is closed, the accumulating dead soon prevent the entrance of fresh air, and the decaying stench breeds disease and death. Experiments have been made with bees, during zero weather, by taking off the cover and bottom of the hive ; yet the bees did not perish. Dampness and foul air are the worst enemies of bees.

The above will answer several similar questions sent to this office.

☞ While in New Orleans we shall "put up" at the Hotel Windsor, which is kept on the European plan, and is located just opposite the U. S. Government Building, Exposition Grounds, Corner of St. Charles Ave. It contains 500 sleeping-rooms, Ladies' Parlor and Reception Rooms, Gents' Reading Room and office, all on first floor. Two lines of cars pass the hotel for down town every minute. Rates, one dollar per day for each person. There is a Restaurant in connection with the Hotel, where meals can be obtained.

☞ While ten men watch for chances, one man makes chances. While ten men watch for something to turn up, one turns something up ; so while ten fail, one succeeds and is called a man of luck—the favorite of fortune. There is no luck like pluck, and fortune must favor those who are most indifferent to fortune.—*Ex.*

QUERIES

WITH

REPLIES by Prominent Apiarists.

Spraying Fruit Trees.

Query, No. 14.—If fruit trees when in blossom are sprayed with Paris green, what will be the effects on bees? What is the best thing to do to prevent bad effects? Would it help the matter if London purple were used instead of Paris green?—Subscriber.

Prof. A. J. Cook replies as follows: "I should have very little or no fear of any harm. The nectar and pollen are all that the bee cares for, and they would be so free from the poison, (the nectar would be wholly free), that I am quite sure that they would work no injury. London purple and Paris green are alike poisonous, so one would have no preference over the other. But why spray the trees thus early? The only object will be to destroy the codling moth-larvæ. To rid our fruit of this greatest apple pest, the poison should not be applied until the blossoms have fallen."

Dampness and Mildew.

Query, No. 15.—My bee-house is damp and mouldy but the bees are quiet. Must I remove the bees to my cellar, or leave them in the dampness?—C.

Dr. J. P. H. Brown answers thus: "If the bees are quiet and in good condition, I would not disturb them; but I would sprinkle lime over the floor, and place boxes filled with it in different parts of the room to absorb moisture."

Where Bees First Deposit Honey.

Query, No. 16.—Do bees, when carrying in honey rapidly from the fields, store it directly in the surplus sections? or do they place it in the body of the hive to ripen, and then carry it above?—J. W. B.

Prof. A. J. Cook answers thus: "Mr. Doolittle says that they do neither, but give it to the nurse-bees, and the latter store it away. I have marked bees and found that they actually do carry honey to the cells, and even to the surplus sections above the brood-chamber. It may be that all do not do so."

Supervision of Labor.

Query, No. 17.—I have several apiaries, and would like the best plan to systematically manage them?—B.

Dr. J. P. H. Brown says: "To answer this question satisfactorily would require some knowledge of the localities, and of the skill, industry and executive ability of the manager. What is 'the best plan' for one person might prove to be a very poor one for another. Everything must be reduced to a perfect system and order. The time should be divided between the apiaries as the necessity of the case requires. Base the management upon skill and a level head."

Bees Expelling Water from Sweets.

Query, No. 14.—Some have asserted that bees have the power of expelling water from diluted sweets, when on the wing, etc. Now, I long to see this matter subjected to the eye of science. Has there been a gland discovered whose function, resembling that of the kidneys, seems to be that of separating water, etc.?—La Porte City, Iowa.

W. Z. Hutchinson remarks as follows: "When feeding bees a considerably diluted food, I have seen them eject a colorless and tasteless fluid when flying to and from the hives. I have also seen the same phenomenon when the bees were leaving their hives in the morning during an excellent flow of honey; and I have seen the same thing when the bees were working upon buckwheat, but the ejection was done at the field of buckwheat."

G. W. Demaree replies thus: "That bees have the power to separate and expel the watery portion of 'diluted sweets' while in the honey-sac, is a proposition unsupported by any conclusive evidence, so far as I have seen. The discharges in the form of a spray, seen when feeding bees sweetened water in the open air, are most probably caused by a well-filled honey-sac pressing on the lower intestines, discharging their watery contents. No 'gland,' of which physiologists have any knowledge, could perform its functions in so short an interval of time, as intervenes between the filling of the honey-sac and the discharges seen."

G. M. Doolittle answers thus: "I think that the assertion is a mistake; for there is no connection that I can find between the honey stomach of the bee and the intestines of the same, except by way of the mouth. This water seen to fall from bees while on the wing, I believe to be thin excrement, after carefully watching the matter for several years. At least I am convinced that it is the bees that have just left the hive that exude it, rather than those returning from the fields with nectar."

Prof. A. J. Cook remarks thus: "I have never witnessed this phenomenon. I know of no physical law that would enable bees to separate water from nectar enroute to the hive. I doubt their having any such power. The renal or kidney-like organs of bees consist of gastric tubules which open into the stomach. I know of no way to explain the phenomenon, and so I am led to wonder if the observation is not at fault. Of course I know and appreciate the truth of Hamlet's remark: 'There are more things in heaven and earth, Horatio, than are dreamed of in your philosophy.'"

☞ The New Jersey and Eastern Bee-Keepers' Association will hold their next annual convention at Cooper Union, in New York City, beginning on Wednesday, March 11, 1885, and to continue two days or more. The committee promises a good programme, and extend a cordial invitation to all. W. B. Treadwell, Ass't. Sec.

Bee-Diarrhea in the South.

Mr. G. W. Demaree, Christiansburg, Ky., sends the following additional remarks on query No. 4 as published on page 36:

Having answered the query just as it stands as a question, I would like to answer it as it "appears to me." In the first place I beg the pardon of the querist, for saying that I am quite sure that he is mistaken about the condition of his bees. What he calls "diarrhea" is not diarrhea in fact. I have several times seen in my apiary, in the early spring after breeding had gotten well started and suddenly checked by bad weather, a state of things similar to that described by the querist.

It is a well known fact that young bees, when several days old, must have a flight in the open air or suffer the consequences. It is a law of the youngling that it must void or perish, and since nature requires that young bees must take wing to answer the calls of nature, it is easy to see what must be the inevitable consequences of forced confinement at an unpropitious time. If Mr. Doolittle is right in his conclusions, and I believe he has thrown a flood of light on this subject, a genuine case of bee-diarrhea must be sought for in a hive where there are none but adult bees. Such a case has never been reported from the South by an experienced apiarist.

Plenty of air-space above the frames will prevent untimely brood-rearing in my locality. I discovered this in a rather singular and unpleasant way. Some thieves carried off a section-case filled with sections, leaving an air-space of over 1,000 cubic inches above the frames; I failed to find this out until spring, and this colony was strong and in excellent health, but it had no brood. The bees were then warmed with quilts, and made up for all lost time, outstripping other colonies which were well on the way when they commenced.

☞ The Cedar Valley Bee-Keepers' Association will hold its next meeting on Feb. 24 and 25, 1885, in the Council Rooms (opposite Burr's Hotel), Cedar Falls, Iowa. A. D. Bennett, *Sec.*

☞ The second annual meeting of the Seneca County Bee-Keepers' Association will be held in the Engine House at Ovid, N. Y., on Feb. 11, 1885, at 9 a. m. All interested are cordially invited to attend, and make the meeting as profitable as possible. All implements of the apiary sent to the Secretary will be exhibited at the meeting, and will be disposed of or returned as the owner directs.

Ira Wilson, Sec.

☞ One of the handsomest and most unique and original ideas in chromo-lithography is the Columbia Valentine, just issued by the Pope Manufacturing Co., of Boston, Mass. The design is in twelve colors, from a painting by Copeland, of Boston, is mounted on a panel, and is a genuine work of picturesque art, representing, in three scenic sections, the morning, noon, and night of bicycling.

CORRESPONDENCE.

Explanatory.—The figures BEFORE the names indicate the number of years that the person has kept bees. Those AFTER, show the number of colonies the writer had in the previous spring and fall, or fall and spring, as the time of the year may require.

This mark ⊙ indicates that the apiarist is located near the centre of the State named; ♁ north of the centre; ♀ south; ○+ east; +○ west; and this ♂ northeast; ⟍○ northwest; ○⟍ southeast; and ♀ southwest of the centre of the State mentioned.

For the American Bee Journal.

Working Against Nature.

DR. G. L. TINKER.

In his reply to my article on page 777 of the BEE JOURNAL for 1884, Mr. W. Z. Hutchinson, after stating that he had tried the Heddon plan of controlling after-swarms, says: "There has been no robbing nor any 'disease.'" Yet Mr. Frank D. Mitchell, in practicing the same plan, had severe robbing to follow, and disaster was averted only by prompt attention. Mr. Mitchell said nothing about disease occurring, nor did I; neither did I think that any reader of the BEE JOURNAL would so construe it.

As to the "blind instincts of nature" and Mr. Heddon's "reason:" He may have asserted the latter and disregarded the former many times when a better understanding would have led to different practice. No man is so perfect that his reason may be said to be "superior" to instinct in directing the course of events in nature. Perfect knowledge is not one of our attributes, given or acquired, while nature makes few mistakes. Take away the instinct of the bees, and our wise men would make a sorry plight in attempting to order a better system than that of nature. And right here, I shall be glad to have it remembered, that the first grand mistake would probably be to order that the "silly" bees should "touch not, taste not, handle not" that deadly thing—pollen—in winter confinement!

My idea of working against nature is where the bee-master, ill-directed by reason, institutes methods and practices of less profit than a course prompted by the instinct of the bees. The controlling of the after-swarming of a colony, on the Heddon plan, that has cast an early prime swarm, will result in a failure to get as much surplus as by a method of management by which the old colony is not deprived of so many bees as to render it unable to cast a second swarm or to store any surplus, unless the season for surplus is a protracted one. In from 5 to 8 days after a first swarm issues, the old colony (if not allowed to swarm again) will ordinarily begin work in the sections and store nearly as much surplus as the swarm. Now, if Mr. Hutchinson will give me a sufficient reason why the old colony should not be allowed to produce surplus, and the young bees profitably employed, then I may be convinced that it may be profitable to work against nature in the manner advised.

I am aware that if nearly all of the bees be taken from the old colony and given to the new one, that the latter will store a larger amount of surplus, but I am not aware that it would store more than both the new one and the old one if divided by swarming only once in a natural manner. Mr. Heddon has truly stated (nor did I misunderstand him as Mr. Hutchinson thinks) "that the largest yields on record have come from the colonies which cast not only one, but two or three swarms." Mr. Heddon states what has been often recorded in the BEE JOURNAL, of unprecedented yields of honey in which after-swarms have taken a part. There is no doubt but that a colony which swarms, if properly managed, will produce more surplus than one which does not swarm; but the recorded facts show the old colony to be no mean factor in the production of the large yields, whether it casts a second swarm or not. This Mr. Hutchinson apparently denies.

While the above represents my views as to all early swarming, I will not say that I would not favor Mr. Heddon's plan of controlling after-swarming, where prime swarms issue within 10 to 15 days of the close of the honey harvest. With these late swarms contracted on about six brood-frames with a queen-excluder, the sections on the old colony may be transferred to the new one at once, and as many bees taken as the old colony can safely spare. They may be shaken from the brood-combs in front of the new colony, or taken by the slower process of moving the old colony about the new one, covering it with a cloth, etc., and by this management a larger surplus may be obtained. But this contracting of the brood-nest is not one of Mr. Heddon's methods, and without it I can see no advantage in his plan whatever, unless it may be to save a little labor, which is offset by obtaining a small amount of surplus.

Where there is so much difficulty in opening hives the brood-frames of which are bound together by new combs built on their tops and between them, the Heddon plan might be advised as a choice of evils, especially with ugly bees; but in instances where the combs may be readily lifted from the hives, I find that the time taken to go through them after queen-cells about the sixth day after a prime swarm issues, is not great. Of course it is many times not necessary, as every bee-keeper will be thoughtful enough to give to colonies, a few days after they cast a prime swarm, a laying queen, a virgin queen, or a queen-cell about to hatch, if he has them and does not care to save the queen-cells of the colony to be operated on; but with the exception of the laying queen, these latter plans are not always proof against after-swarms. Another objection to the Heddon plan is with highly prolific queens, like the Cyprians, the Syrians, the Syrio-Italians or Albinos.

BEST MANAGEMENT FOR SURPLUS.

If we build up colonies of these bees on ten or more brood-combs to their fullest capacity by the time of the honey-flow, and then hive all swarms on from 6 to 7 brood-frames, as is advisable, and prevent after-swarming on the Heddon plan, we shall get too many bees in the new colonies. I divide up these very large colonies as nearly even as possible, which I am able to do by placing the new colony on the old stand and removing the old one to a new location. By the time the most of the young bees have hatched, both colonies will be of about the same strength and produce about the same amount of comb honey. I also take two or more brood-combs from the old colony. The swarms are hived on 6 or 7 frames half filled with foundation, or on as many frames of empty comb. Soon after, the combs taken from the old colony are given to them, and as many frames taken from the new one; or, if the queen's wing is not clipped, and the swarm is allowed to cluster, I place the combs in the hive at once, put on the sections and then hive the swarm. The combs taken from the old colony are always placed at the outside of the brood-chamber, and the frames with foundation, in the centre.

After hiving a swarm on so few combs, the hive must be well ventilated or they will desert it. As I put on the sections at once in all cases, desertion is prevented by giving ventilation through the sections at the top without letting out the bees. After two days these openings are closed. I also advise the use of a queen-excluder on all colonies, and find that, if properly made, they do not hinder the storing of surplus in sections or frames; but if fewer brood-combs than six be given, the bees will store much pollen in the sections.

CONTROLLING BROOD-REARING.

This I regard as essential to the best results. When it is seen that the eggs deposited will not produce mature bees until too late to be of service in storing surplus, then both old colonies and new ones should be contracted on a few brood-combs, and queen-excluders should be placed beneath the sections, and the work of the queen narrowed down to the lowest possible limits. Then, as soon as the season of surplus closes, all surplus is to be removed, when the bees, finding themselves short of stores, breed but little. Colonies having highly prolific queens, which I have managed on this plan, have been found to be quite small in the fall, and where increase is not desirable, it would be easy to unite them; and although a little more troublesome then, than during a honey-flow, it comes at a time when robbing and other disturbance will not interfere with the work of the bees as when profitably storing surplus. So much for Mr.

Hutchinson's fears that working against nature at a time when the bees are not working at a profit to their owner is not more wise than at other times.

But Mr. Hutchinson will doubtless say that there is much work about Mr. Doolittle's method of contracting the brood-chambers of hives which contain colonies run for comb honey. In reply, I would ask, is it not better to exhaust the honey-flow of a locality by a fewer number of colonies built up very strong, than to have so many weak colonies in 8-frame hives to do the same work? These little colonies require about the same labor on the part of the bee-keeper, and it is an open question whether the bees in the larger colonies will not produce the most surplus. I say that they will.

In managing colonies on the plan here given, we must have hives which can readily be opened, and without unduly disturbing the bees. (I very rarely use a smoker). Then when it comes to taking out brood-frames, contracting brood-chambers or cutting out queen-cells, I can do it without any great ado or loss of time. In case I overlook a queen-cell, which is rare, and an after-swarm issues, I put it back after cutting out the offending queen-cell. After handling hives and brood-frames for several years on the plan first given to the public by Mr. Doolittle, I conclude, on the whole, that it is more important to have readily movable brood-frames than "readily movable" hives.

New Philadelphia, O.

For the American Bee Journal.

My Reversible Frame.

G. M. ALVES.

An illustration is herewith submitted to those who think of using a reversible frame during the coming season. As yet, the writer has never used this frame, but he can see no reason why it would not work admirably in practice, and he is now making a number of them for his own use next season.

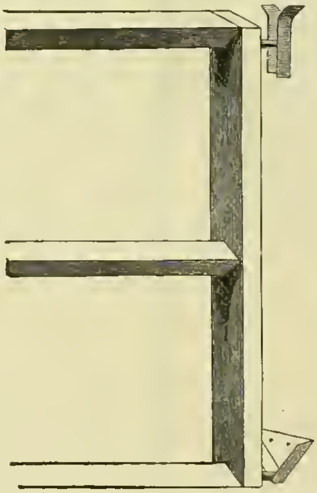
The end-pieces are ¼x⅞ inches and of the required length. The top and bottom bars are each triangular in shape. The center bar is ⅝ of an inch square with a diagonal up; the other diagonal will come even with the side of the end-pieces, as the diagonal of ⅝ is equal to ⅞. Of course it will be seen that the center bar is not necessary to the frame or its arrangement, but its use is preferred by the writer, for the following reasons:

1. By its use he expects to be enabled to obtain much truer combs than without it, as he finds that while bees will build from a downward projection, they are also disposed to build down to an upward projection.

2. Its use will render the frame much stiffer, and the comb will be held in place much better.

Near the top and bottom of the end-pieces of the frame, good sized wire nails with their heads cut off are driven in so as to project 5-16 of an inch. In lieu of rabbets to the hive, tins of the form shown in the illustration, are secured in place at the front and back of the hive, to receive the nail-projections of the frame. It will be seen that the bottom tins support the weight of the frame, while those at the top are merely slots to hold the top of the frame in place. The tins are easily and quickly made of a single piece of tin—the only solder used is where the sides of the bottom tins come together, in order to more securely hold the weight of the frame. Where the space between the frame and the hive is ⅜ of an inch, the depth or projections of the tins should be ¼ of an inch. This with the 5-16 projection of the nails of the frame, will give ⅛ of an inch play between the back of the tins and the ends of the nails, and at the same time will prevent the nails from getting out of the tins.

Now, with this frame and its fittings aside from all of the advantages accruing from a reversible frame, the following merits over the ordinary hanging frame are obtained: 1. The frame is stronger and less liable to get out of true. 2. The frames are all held equally spaced, both at the top and bottom. It will be seen that the sides of the lower tins act as guides, hence the spacing of the frames at the bottom is automatic.



As to objections: It might be said that it frequently happens that certain frames cannot well be taken out without moving the adjacent frames a little off, and that this is done with the ordinary hanging frame by sliding it laterally on the rabbets of the hive, and that this could not be done with this frame; but it may be answered that we simply lift the top nails of the frame wished to be moved off, out of their slots, lean the frame to the required side, and then allow the bottom to gently glide into its former support.

If it be objected that propolis might interfere with the working of the frames, it may be said that the space between the ends of the frames and the tin projection is only ⅛ of an inch it is true, but that little propolis could be joined to the thin edge of tin. Those who have doubts on this point, in lieu of the wire nails to the frames, could use short pieces of **T**-shaped tin; the flanges being wide enough to cover the entire width of the frame.

It is believed that the more this frame is studied the more it will find favor.

Henderson, Ky.

For the American Bee Journal.

My Experience in Wintering Bees.

L. N. TONGUE, (25—70).

My first lessons in apiculture were learned in Belvidere, Ills., from a practical bee-man, whose soul was in the work. He was the first man who drove a colony out of a hive and retained one in the old hive; he also was the first man to fasten slats in the top of the hive for bees to build combs upon; and after experimenting, the space adopted was 1⅜ inches from center to center of each slat. Movable frames were not in use when my instructor adopted his plan of having combs built straight.

In 1880 I went to Minnesota where I wintered my bees in a cellar for the first time. When I took them out of the cellar in the spring, the hives, combs, and even the joists over-head, were completely covered with mold and dripping with water, and, notwithstanding all this, the bees came out all right. In 1882 I came to this place and bought 50 colonies, increased them to 133, and sold 21 colonies in the fall of 1882. Then I moved my bees 9 miles and put them into a cellar without giving them a chance to fly. The cellar froze up solid. In the spring of 1883 I carried them out for a fly and then put them back. When I took them out to stay, I had 4 colonies left, after spring dwindling. No one need say that I do not know what bee-diarrhea is. I never shall forget the sight nor the stench.

I bought 4 more colonies and the 8 I increased to 25 colonies. I wintered them in a cellar, and in the spring of 1884 I moved them 3½ miles to gather basswood honey. I left them in the care of my wife and son and then I went to Tennessee to take charge of an apiary.

My experience teaches me that bees in a Southern climate would have the diarrhea worse than they do in a Northern climate, were it not for the frequent flights which they have in the South. Bees gather immense quantities of pollen there, and they consume much for brood-rearing. While I was in Tennessee I had frequent occasions to witness the copious discharge of pollen by bees when taking a flight; also when shaking bees from a frame, especially when they had been confined in the hive by cold, rainy weather. Had those bees been retained in their hives until their abdomens had become inflamed, diarrhea would have been the result.

From long experience and close observation, I conclude that Mr. Heddon is correct in this pollen question. Pollen *is* the prime cause of bee-diarrhea, other causes being secondary. Bees cannot rear brood without pollen; hence by removing all pollen in the fall and feeding granulated-sugar syrup, is a sure and safe way to winter bees in a Northern climate.

The 25 colonies were increased to 70 and I gave my son 14 for his share, leaving me 56; but I expect to lose as many as 7 in wintering. The season was poor in some localities in this section. I secured 1,000 pounds of honey. Next season I purpose to run my apiary for honey instead of increase.

Hillsboro, Wis., Jan. 26, 1885.

For the American Bee Journal.

Peculiarly Diseased Colonies.

ISAAC SHARP.

On page 555 of the BEE JOURNAL for 1884, I wrote about some bees acting differently than any that I had ever heard of. In the season of 1880 I had a colony that carried out sick bees and dead ones until nearly July, so much so that when I was away from home and any person passing through my apiary would pass that colony they would at once enquire what was the matter with it, on account of so many dead bees being about it. I tried to keep the bees cleared away so that it would not be noticed, but all to no purpose. I might clean all away and in less than an hour there would be enough sick and dying bees on the alighting-board to attract the attention of almost any one who cared to go near a hive of bees.

The queen of this colony was a daughter of an imported "Dadant" queen which I obtained in the spring of 1878. She was reared in that year. During all this time the queen kept the brood about up to the usual amount. The brood, from the eggs to the mature bees, appeared all right. The increase was kept about equal to the decrease from dying. During this time the bees consumed about all the honey they gathered.

The trouble ceased toward the latter part of June and the bees stored enough honey for winter. This colony was one of 6 belonging to my daughter and the only one that survived the terrible winter of 1880-81. The increase of this colony has been kept strictly to the account of my daughter who assists in the apiary and takes care of and sells her own honey. I had 5 colonies to winter out of about 30. Up to this time my daughter's bees have produced nearly one-third more honey than mine. She had 17 good colonies to put into winter quarters. Since then the disease of which I speak has not showed itself in any of her colonies. Now, the question is, what was the matter with that colony in the summer of 1880?

As stated on page 555 of the BEE JOURNAL for 1884, the colony which was diseased last summer was diseased in the same way, but instead of the trouble ceasing toward the latter part of June, the disease continued. The colony stored some honey around the brood-nest during the best honey-flow, but it did not get strong enough to store any surplus. Soon after the first honey-flow was over they began to gradually dwindle away. They consumed all their stores but kept brood-rearing going on all the time, and even until there was not enough bees to cover more than one side of a frame. Sometimes it was a wonder to me how they had so much capped brood with so few bees. When the cool days of fall set in, the bees ceased to fly, not having any honey.

Having no desire to preserve this colony, I gave it no food, and the last time I opened the hive there were live bees in it—the queen and probably about 50 young bees with a few scattering cells of capped brood which had small holes cut in the caps, and some of the cells had the caps entirely cut away and a part of the contents removed. Of course the bees were starving and were subsisting on the contents of the capped cells. Soon after this I found the dead queen, and all was over. This hive and the combs as the bees left them, with a little cleaning, I consider all right to put a swarm in next season, as the moths did not trouble it. My apiary is not troubled with moths.

Judging the future by the past, I have not much to fear; but should a large number of my colonies become diseased in the same manner, the loss would be considerable. I had a good opportunity to observe the working of this colony as it stood close to my shop-door. I have kept bees for 30 years, and during the last 12 years I have had them in frame hives and have reared queens and studied bee-keeping, but have never known of bees diseased as were these two colonies of which I have written.

Waveland, Ind.

For the American Bee Journal.

Apicultural Humbug and Fraud.

W. F. CLARKE.

When in Chicago, last October, I spent an hour or two in the palatial establishment of Jansen, McClurg & Co. A book entitled "Money Making for Ladies," published in 1882, caught my eye. I am always interested in schemes of money-making for the fair sex. They are well up in the art of spending money, and if they can only be put in the way of making the article, they may enjoy the luxury of "shopping" without feeling that a monster of a man will be mercilessly criticising their expenditures. But oh, preserve us from such dishonest gains as the following:

"Making honey from sugar has been successfully tried," we are told in the work which I have named, and the *modus operandi* is described at length. The author states that 15 pounds of sugar were fed to a colony of bees, in the form of syrup. At the end of 20 days, lo! the syrup had disappeared, but in place thereof, there were 20 pounds of first-quality honey which sold (when, and where?) for 30 cents per pound! The sugar cost $1.80, and the honey brought $6.00, the difference being the result of three weeks' industrious labor on the part of "the little, busy bee." It is added that "the flavor of the honey was excellent," and we are assured "it cannot be told from wild-flower honey."

The author strongly advises ladies to try this method of money-making, to render the deception as perfect as possible, and suggests that the syrup be concocted with "a little tea made from white clover heads of which bees are very fond!" There is worse to come. It is recommended to add a little brandy to this tea, of which, also, we are told that "bees are very fond." A facetious poet lately charged bees with being misers, now let someone strike the lyre (liar), and proclaim, in lofty strains of verse, that they are tipplers. The author further advises lady bee-keepers to "secure a beautiful white pink tinge" to honey, by "feeding a little cochineal."

I would not have been so tardy in exposing this imposition on the credulity of the public, but the notes and quotations I made at the time, were jotted down on the back of a letter which was mislaid, and I did not like to write from recollection in regard to a matter of this kind.

Speedside, Ont.

For the American Bee Journal.

Can One Man Take Care of Bees?

S. DANIELS.

The above subject is one which I should like to hear discussed, for in my experience I find it almost impossible for one person alone to attend to an apiary. For instance: I fill my smoker with rags or rotten wood, light it, give the bees a smoking, lay it down and begin lifting out the frames to see their condition or to find a queen. Then, perhaps, the bees will rise before one hive is half examined. I turn to my smoker and find the fire gone out, and before I can again light it, the bees are all flying, and they get the mastery.

When I began I bought a lot of bees in box-hives, with the intention of trying my hand at transferring and Italianizing them. I obtained Prof. Cook's Manual, and everything looked possible and easy. I prepared about 20 Langstroth hives in which to put all swarms, but the drouth cut everything short, and I got only 6 swarms from 15 colonies during the first season, and then I found on examining them about Sept. 15, that they were nearly out of honey and brood. I commenced feeding them moderately to start brood-rearing, then fed the 6 new colonies up to the middle of November, about 140 pounds of coffee A sugar made into good syrup for winter stores, and then packed them in leaves on the summer stands. They appear to be doing well.

But, as I said at the start, I never got to see a queen during the whole summer. I care about as much for a bee-sting as a rhinoceros does, and they have about as little visible effect on me; so, smoker or no smoker, I went through six hives, frame after frame, to see the condition of the colony. I cut holes into the combs and looked for queens, and must say that I never got a glimpse of one. Now, that is what makes bee-keeping a mystery to me. If I could find the queens and other conditions of the colony as easily as others do who write bee-literature, I could go ahead.

I began the bee-business with considerable enthusiasm, but I must say, all things considered, that it does not pay in this section, or in any other section since sugar has become so cheap. I think, from the indications of the markets, that honey will soon have to be sold with a chromo. Every place it is marked dull or no honey wanted.

Last summer I had a trial of peddling honey in my home market, and I found it a pretty sticky business. The only hopes I have now is to get my honey in a little nicer shape in sections.

What do those signs indicate before the names of States?

Pine Grove, ♀ Ohio.

[The signs referred to indicate the part of the State in which the particular correspondent resides. Please see page 101.—Ed.]

* * *

For the American Bee Journal.

Moving and Wintering Bees.

MRS. EMMA HULETT.

The season of 1884 was the poorest known here for the past 10 years, there being only half a crop of clover and no basswood. We secured only one-half a crop of honey, and we never saw bees swarm so little. We moved our bees 1½ miles about the middle of October. We put wire-cloth over the hive-entrances, and moved them in the afternoon of a quiet, cloudy day, on a hay-rack covered with straw, making two loads from 55 colonies.

Early on the next morning my husband laid out the new apiary grounds on a small knoll in an orchard south of the house. We removed the wire-cloth and gave them their liberty, all having been put up in good order before noon, and they then had a nice "fly." In the afternoon we went to the old location to pack honey, but not one bee came back. We had noticed considerable pilfering around the hives previous to their removal, but afterward they were the most quiet lot of bees that I ever saw. They flew nearly every day all fall until they were put into winter quarters on Nov. 24, 1884.

We have always wintered our bees in an out-door cellar, until this winter, and now they are in the cellar directly beneath the sitting room. There is a 5-inch pipe extending from the cellar to the pipe above, and each has a close fitting damper which can be governed at will. The cellar is large and dry, and the bottom is flagged with large flat stones. There is plenty of air-space above and around the bees, and the fire above them carries off the impure air and causes a circulation of pure air in the cellar. I do believe that artificial heat is needed around a bee-cellar. The mercury varied only 7° from Nov. 24 to Feb. 1, and we have had some warm days and some zero weather, but sudden changes do not affect it unless the wind blows hard from the right direction. The bees are very quiet, and as yet no dead bees are on the cellar bottom.

South Dayton, ♀ N. Y.

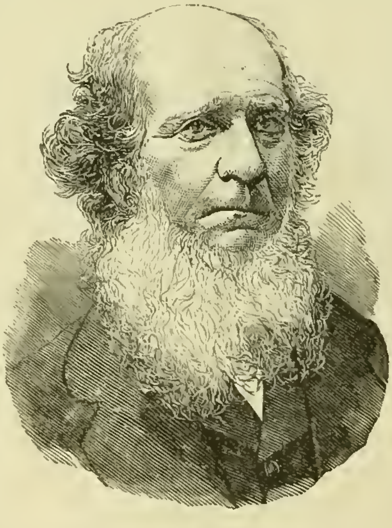
* * *

Bee-Keepers' Magazine.

Another Pioneer Gone.

EHRICK PARMLY.

William W. Cary was born Feb. 24, 1815, and died Dec. 9, 1884, at Colerain, Mass.



MR. WM. W. CARY, DECEASED.

The pioneers in modern bee-keeping are fast passing away. Still, we have the father (Rev. L. L. Langstroth) with us. Those who by their energy and ability have added to the fund of knowledge, whose lives have elevated the work their hands found to do, deserve from us some fitting notice of their labors, to encourage the young to imitate them in their lives, and their brother pioneers to not feel that they are forgotten if the hand of time has lessened their power to work in the field of their choice. Our departed friend, from his early childhood, had a great love for bees, and never lost an opportunity to study their habits when he chanced to be where they were kept. This impulse was so strong that it led him away from the ordinary amusements of boyhood.

When thirteen years of age he met with an accident that deprived him of motion in one knee. The joint became anchylored in a partially fixed position, causing him considerable inconvenience in moving about lumber piles and the ordinary work of his mill, which is only a few rods from the dwelling in the village of Colerain, Franklin Co., Mass.

Being thus crippled did not affect his energy or enterprise. In the autumn of his eighteenth year he obtained his first colony of bees, and from that time has never been without bees.

His last illness was long and painful, nearly eighteen months. He improved somewhat during the fine weather of last September and October, and one day walked out to the bee-yard and said he wanted to see the inside of a hive once more, and made several suggestions about preparing some of them for out-door wintering. He had 300 colonies. He also rode out several times, and his family felt much encouraged, but this improvement was of short duration. He grew rapidly worse, and died Dec. 9, 1884, in his 70th year.

He had been a bee-keeper for 52 years, and I may say he had been a student during all of those years, for he had in him by nature the true spirit of original research.

About the year 1850 he made the acquaintance of the Rev. L. L. Langstroth, who was then living in Greenfield, Mass., and they spent some time together in experimenting with bees and hives. At that time he commenced using the Langstroth movable comb hive, determining to make all the experiments he could think of that promised to shed any light on the subject, without regard to the season's surplus, that he might later work more safely, intelligently and profitably.

I would here make note of the life-long friendship that existed between Mr. Langstroth and Mr. Cary. Their enthusiasm and devotion to the study of the honey-bee, and thorough honesty of purpose, placed them on the same level. The distinctions made by the world, having their origin in the difference of position, education or calling, were unknown to them; and had I reaped no other pleasure or benefit from bee-keeping than the friendship of such men in the ranks, I should feel more than repaid for the time spent in its study.

Early in March, 1860, he learned that Mr. Samuel B. Parsons, of Flushing, N. Y., had succeeded in importing a few queens from Italy. He visited him and spent the entire season in Flushing propagating queens, having the whole charge of Mr. Parsons' apiary. Bees for several miles around were bought or Italianized, and every precaution was taken to prevent admixture. Since then he has uninterruptedly bred the Italian queens, and has used many imported mothers in his apiary. His only son, Wm. Whiting Cary, was associated with him in business, and having handled bees from early childhood, acquired a skill and quickness that few ever attain.

Mr. Cary took great interest in the importation of other races of bees, and made transportation boxes which he sent to foreign countries accompanied by full directions; but these attempts did not meet with any success. A few years ago, a missionary from Ceylon spent some time with him to learn practically the management of bees, and through him Mr. C. hoped to receive, some day, *Apis dorsata*, or at least some specimens of that bee and its combs; but nothing ever came of it. Since then the efforts of both Mr. Jones and Mr. Benton have thrown some light on the subject of the foreign races of bees.

Mr. Cary leaves a widow and three children to mourn his loss.

New York City.

◆

For the American Bee Journal.

Wintering Bees in a Vault.

JOHN TRIMBERGER.

On page 140 of the BEE JOURNAL for 1884, I explained how I warmed my bee-vault by fire in a wood stove. Now, what was the result? Every time the temperature was raised to 50°, the bees would become noisy, and many left their hives to certain death near or on the sometimes red-hot stove. Those near the stove would always leave their hive *en masse* to cluster on the outside. At one time the fire had burned low, when I fed it again, leaving it to take care of itself. Upon returning in the course of an hour, I found the wood only smoldering, and, therefore, the vault was full of smoke—yes, so full of it that I left the doors open and retreated to a safe distance. Upon reentering in a few minutes, I learned to my great consternation that the dense smoke had driven nearly every bee out of its hive in search of fresh air. A colony was sometimes clustered in two or three places on its hive.

Although a goodly number of these colonies showed signs of diarrhea before the heating process commenced, all except 4 were put out alive on March 22, 1884, the most of them being very populous, but having but little honey. By the middle of May 12 had died, and the rest were extremely weak. Having bought some to swell their number to 60 colonies, they increased to 105 by natural swarming, and produced 2,500 pounds of comb honey and 450 pounds of extracted, white clover being the only surplus yield.

By the way, the colony which was wintered out-of-doors in the gum with so much upward ventilation, was fozen to death with about 3 pounds of honey left in the hive, the extinct bees hanging in regular clusters between the combs.

On Nov. 23 I put my bees into the vault and propose never to open the door until I put them out in the spring. The vault is covered with dry earth to a depth of 3 feet, and well ventilated. They are, I think, cellared well. I confess that I am at a loss to know whether my last winter's operation was a success or failure, but, nevertheless, I am sure that I will not venture it again, especially after having noticed Mr. Doolittle's disastrous coal-oil-stove experiment.

Ashton,♀ Wis.

For the American Bee Journal.

The Use of Drone-Traps.

HENRY ALLEY.

Several answers in reference to drone-traps were given on page 52. As I have had as much experience in the use of the drone-trap as any one, having used them for 27 years, I can, perhaps, enlighten the readers on this point. Messrs. Dadant & Son said that drone-traps were "a nuisance at the best." This fact shows clearly that they know nothing about the construction or use of a perfect trap, or they would not have made such a statement. Why will they not "back up" what they have said, by a few facts, as there are thousands of drone-traps used in this country, and by some of our most intelligent apiarists?

I think that, with one exception, not one of those who replied to the above query ever had much experience in the use of the drone-trap. One correspondent recommended the Jones' bee-guard as the best thing to use. Let us see how the bee-guard works. If placed at the entrance of a hive containing a strong colony (in which there must be a large number of drones at the season when it is necessary to use a trap), for several hours in the middle of the day, it will soon become clogged with drones which are trying to leave the hive for a flight, and if not closely watched there will be danger of the colony perishing from heat. The bees will be greatly hindered in their work, as the drones will be trying to escape for at least two hours in the busiest part of the day. What is such an arrangement worth when compared with a good drone-trap?

Now, if the trap is used, the drones will pass up into the chamber (or trap) above, out of the way of the workers, and when night comes they can be released or destroyed at the pleasure of the apiarist. When a good drone-trap is used, the bees can pass out and in as readily as though no obstruction were there. Had Messrs. Dadant & Son said the same of the bee-guard, that they did of the trap, many would have agreed with them.

Let us see what can be done with a perfect drone-trap: Suppose there are 50 colonies of bees in any apiary, and the majority of them are blacks or hybrids, and the balance pure bees of any race; or, suppose that there is no pure race, but a few of the colonies are superior workers, and possess other desirable qualities, and are, in fact, just the strain of bees which one desires to propagate. Now, perhaps all these latter colonies have swarmed, and there are some fine queen-cells which the apiarist desires to preserve; if so, it can be done easily and without trouble by removing the objectionable queens, and at the same time inserting a queen-cell in each colony as far as they will go. Then, at the proper time, place a drone-trap on each hive which has a queen-cell inserted in it, as well as at the entrances of the hives of all the other colonies whose drones are to be destroyed. Every one of the young queens will be fertilized by the desired drones.

While virgin queens can pass through the perforated zinc, a laying or fertile queen cannot. The drone-trap can be placed on the hive, and the necessity of destroying drone brood by shaving off their heads or by cutting out the drone comb can be avoided. And it will not be necessary for one to trouble himself about examining the trap, as is recommended when the bee-guard is used, as the former can be placed at the entrance, and need not be troubled only at the pleasure of the apiarist.

Here is another point which was overlooked: At the proper time the bees know from a natural instinct that drones are needed in the colony. If they have not the ready drone comb for use, they will find room for the queen to deposit drone eggs somewhere in the hive. Every small hole or opening in the combs will be utilized by the bees for this purpose. If there are any combs which do not quite fill the frames at the bottom or sides, the bees will construct drone-cells, and will rear drones in this way. When that will not work to suit them, they will rear them in the caps. When drones are needed, the bees will follow their instincts and rear them, and all "cutting and slashing" of combs will not prevent them from doing so. Would it not be a pretty job to go over 100, or even 50 colonies, of bees, and cut out the drone comb and fill the places with comb foundation?'

When speaking of "nuisances" in the apiary, all of the most experienced know that complaint has been made against every new implement devised, all the races of bees, movable combs, frame hives of all descriptions, smokers, and even comb foundation—all have had their turn. Well, we can get along without comb foundation, the movable-frame hive, smokers, and drone-traps, but it would be very inconvenient.

Wenham,♂ Mass.

◆

For the American Bee Journal.

Handling Bees—Bee-Diarrhea.

GUSTAV LEOPOLD.

I have handled bees for 29 years, and I find a good deal of pleasure in it. I can deal with them like flies, picking up handfuls of them with my bare hands. I can take a whole hive full of bees and empty them over my naked body without receiving a sting. When the season for swarming comes, I simply shake the bees into my hat, (if I cannot do this, I scrape them in with my hands), and then carry them to the hive. In this way I have often-times hived from 20 to 35 swarms in one hour.

I have a bee-house made out of matched flooring, 200 feet long, 5 feet high and 3 feet wide, just wide enough to slip in the hives. It has a roof sloping toward the north, and it has doors on the south side hanging on hinges, which I can close at any time when it is necessary, but I have them closed as long as there is snow on the ground, and I keep the snow shoveled up almost to the roof. I left a space about ¼ of an inch wide to let in fresh air. As soon as the snow is all gone, I raise the doors, and as soon as the weather is warm for a few days in March, I place pans of rye flour a few feet from the hives. This rye flour every bee-keeper ought to give to his bees. They use it only for rearing their brood, and it makes them swarm early, and also makes them produce large swarms.

Ever since I have kept my bees housed up, I have never lost a colony. I used to lose a good many colonies by diarrhea, generally in the spring, and sometimes in the summer, until I found a very cheap cure for it. I fill shallow troughs nearly full of rain-water, and then put a small handful of rock-salt into each of them. This I give to them from spring until fall, and ever since I have used this remedy I have never lost another colony. I believe that they take the salt-water to their hives to purify their honey; and I also have no trouble with foul brood since I used the salt-water.

The honey harvest was a very poor one here last season. I had 100 colonies last fall, and sold 50 of them at $10 apiece. I use the Langstroth hive.

Joliet, Ills., Feb. 4, 1885.

For the American Bee Journal.

The Nebraska State Convention.

The Nebraska State Bee-Keepers' Association met at Tecumseh, Nebr., on Jan. 14, 15 and 16, 1885. On account of the extreme cold and stormy weather but few of the members of the Association were present at the first session. More came in on the second day, and with the addition of new members, the meeting proved to be very interesting.

Mr. T. L. Von Dorn, of Omaha, and Mr. S. L. Thomas, of Plattsmouth, were re-elected as President and Vice-President respectively. Mr. W. F. Wright, of Johnson, Nebr., was elected Secretary, and Mr. R. E. Leach, of York, was elected Treasurer. The reports made by President Von Dorn and ex-Secretary M. L. Trester, as delegates to the Bee-Keepers' Convention at Chicago, last fall, elicited general discussion.

Mr. M. L. Trester read a very interesting essay on an experiment made by him during the past year to ascertain at what age bees begin to work. His essay brought out many facts that were new to most of those present, and by resolution he was requested to publish his experiment in the papers of the State.

The form of a Bill to be presented to the State Legislature, which is now in session, for its action, was drafted expressing the wishes of the Association for more complete and thorough organization, and for the protection of the bee-keepers of the State. A feeling seemed to exist among the members for such an organization to fully represent the bee-interests of the State, and will, without doubt, result in the formation, ere long, of an organization whose good effects will be felt generally.

In regard to the "Hunt Honey Fraud:" The executive committee was fully sustained by the Association in their opposition to the introduction of adulterated honey into the State by Mr. F. H. Hunt, of Centre Point, Iowa, which has resulted in the removal of such honey from the State.

Mr. Margrave, of Kansas, being present, was, on motion, elected an honorary member of the Association.

The topics discussed were generally led by G. M. Hawley and M. L. Trester, of Lincoln, R. V. Muir, of Brownville, T. L. Whitbeck, of Wahoo, J. N. Grant, of Beatrice, T. S. Corbett and S. L. Thomas, of Plattsmouth, and Mrs. Heater, of Columbus. All being veterans in the manipulation of bees, one would think that they had always lived inside of a bee-hive.

By resolution, the next annual meeting will be held at Lincoln, Neb., on the second Wednesday in January, 1886.

W. F. Wright, *Sec.*

T. L. Von Dorn, *Pres.*

The International Congress.

The Convention will assemble at 10 a. m. in the Lecture Hall on the Exposition Grounds. Among the subjects which will be considered during the sessions of the Convention will be reports of the honey resources and production of America and Europe; preparation of honey for market; transportation; lower rates of freight; marketing; the advantages of the use of comb foundation; sections, the best size and the best way to use them; the best race of bees for America; prevention of swarming; fertilization of queens; bee-pasturage; bee-keeping as a pursuit; besides the discussion of other questions of interest that will be propounded. Essays to elicit discussion are expected from some of the most prominent bee-keepers of Europe and America.

Bees and bee-keepers' supplies for exhibition must be sent with *all freight prepaid*, and directed to Maj. E. A. Burke, Director General of the Exposition, for Department of Agriculture, New Orleans, La. The Board of Management of the Exposition has established a Department of Information and Accommodation, at Nos. 164 Gravier and 15 Union streets, for the purpose of furnishing visitors with information as to suitable board and lodging houses, or furnished rooms with directions how to reach them. For such service no charge is made.

Bee-keepers, on arrival in the city, are advised to go at once to the office of this department and make the best arrangements that they can for quarters, and if they will leave their cards and address at the same place, their friends will know where to look for them. The most of the visitors to the Exposition find it best and cheapest to rent rooms and take their meals at restaurants. Furnished rooms will cost from 75 cents to $1 for each person, per day, and board and lodging about double these rates. We are assured that the hotels have not advanced their rates, which are $2 to $3, according to location of rooms, etc.

The Committee.

☞ As a means of recognition, bee-keepers going to New Orleans should wear Badges. It will help to make acquaintances, and add much pleasure to the trip. We have made a lot, having, besides the gold bee, the words "New Orleans Bee-Keepers' Congress" in large gold letters. Price 10 cents; also some with a rosette and gold fringe, price 50 cents.

The regular price of a ticket from Chicago to New Orleans and return by any route, is $20; but "return tickets" have been sold by "scalpers" for much less. The regular tickets can be obtained at any railway ticket office in the Northern States, at a correspondingly low rate. The Scalper's tickets can only be "picked up" occasionally.

Convention Notices.

☞ The third annual convention of the Eastern Iowa and Western Illinois Bee-Keepers' Association will meet at Moore's Hall, Davenport, Iowa, on Feb. 18, commencing at 10 a. m., and lasting two days. Bee-keepers' headquarters will be at the Newcomb House, where rates have been reduced to $1.50 per day. Honey, beeswax, or apiarian supplies for exhibition should be sent to I. Hall, who will take charge of them, at the depot or express office, and return the same as owner may direct. It is expected that this will be the largest and most interesting meeting ever held in the State. Everybody invited to attend.

I. V. McCagg, *Pres.* Wm. Goos, *Sec.*

☞ We had a regular Iowa blizzard on Jan. 16 and 17, which made travel either by sleigh or rail almost impracticable; therefore, the Marshall County Bee-Keepers' Association failed to have a meeting on Jan. 17, 1885, as announced. It will meet at the Court House in Marshalltown, Iowa, on Feb. 21, 1885, at 10:30 a. m. The programme will be the same as announced for the Jan. 17 meeting. All having any thing of interest to apiarists are requested to bring it along. A general invitation is extended.

J. W. Sanders, *Sec.*

☞ The Willamette Valley Bee-Keepers' Association will hold its second meeting at La Fayette, Oregon, on the third Tuesday in June, 1885. All who are interested are invited to attend.

E. J. Hadley, *Sec.*

☞ The Progressive Bee-Keepers' Association of Western Illinois will meet in Bushnell, Ills., on Thursday, May 7, 1885. Let every bee-keeper who can, be present and enjoy the meeting.

J. G. Norton, *Sec.*

☞ The Eastern New York Bee-Keepers' Association will hold its annual convention at Albany, N. Y., in Horticultural Hall, on Wednesday and Thursday, Feb. 18 and 19, 1885. Three sessions will be held each day. The first session beginning at 10 a. m., on Feb. 18.

Solomon Vrooman, Pres.

Local Convention Directory.

Time and place of Meeting.

1885.

Feb. 17.—Ohio State, at Columbus, Ohio.
C. M. Kingsbury, Sec., Mt. Vernon, O.

Feb, 18.—E. Iowa and W. Ills., at Davenport, Iowa.
Wm. Goos, Sec., Davenport, Iowa.

Feb. 18, 19.—Eastern New York, at Albany, N. Y,
Solomon Vrooman, Pres., Seward, N. Y.

Feb. 21.—Marshall County, at Marshalltown, Iowa.
J. W. Sanders, Sec., LeGrand, Iowa.

Feb. 24-26.—International, at New Orleans, La.

Feb. 24, 25.—Cedar Valley, at Cedar Falls, Iowa.
A, D. Bennett, Sec., Waterloo, Iowa.

Mar. 11.—New Jersey and Eastern, at N. Y. City.
W. B. Treadwell, Sec., 16 Thomas St., New York.

April 3.—N. E. Kansas, at Hiawatha, Kans.
L. C. Clark, Sec., Granada, Kans.

Apr. 28.—DesMoines County, at Burlington, Iowa.
Jno. Nau, Sec., Middleton, Iowa.

May 4.—Linwood, Wis., at Rock Elm Centre, Wis.
B. Thomson, Sec., Waverly, Wis.

May 7.—Progressive, at Bushnell, Ills.
J. G. Norton, Sec., Macomb, Ills.

May 28.—N. Mich. Picnic, near McBride, Mich.
F. A. Palmer, Sec., McBride, Mich.

June 19.—Willamette Valley, at La Fayette, Oreg.
E. J. Hadley, Sec.

Dec. 8—10.—Michigan State, at Detroit, Mich.
H. D. Cutting, Sec., Clinton, Mich.

☞ In order to have this table complete, Secretaries are requested to forward full particulars of time and place of future meetings.—Ed.

SELECTIONS FROM
OUR LETTER BOX

Bees at Work on Maples.—M. T. Hewes, New Roads,+o La., writes thus:

My bees have come through the winter in splendid condition, and are now working on the gum and maple trees.

Bees are Quiet.—Wm. Bolling, Dunkirk,♀ N. Y., on Feb. 6, 1885, says:

From 5 p. m. yesterday until 6 a. m. this morning, the mercury fell from 24° above zero to 4° below. My bees are quiet and wintering splendidly so far. On Dec. 29, 1884, they had a good fly, and since then they have been housed up. They are packed in chaff on the summer stands.

But Little Honey Eaten.—3—Chas. Sitts, (18—36), Brasie Corners,♂ N. Y., on Feb. 7, 1885, writes thus:

I weighed each hive in my apiary on Sept. 19, 1884, and fed all colonies up to the required weight. On placing them in the cellar on Nov. 14, I found that one hive weighed only 39¼ pounds, and as there could only be 10 pounds of syrup in that hive, I felt a little afraid that the food of that colony would become exhausted before spring; therefore, I weighed the same hive again to-day, and find that it weighs 38¼ pounds, the colony having consumed only one pound of sugar syrup during 2 months and 22 days of confinement. There were about 200 dead bees on the bottom-board. The colony is of medium size, and has no brood. My bees are wintered in a cellar whose temperature I keep at 42° Fahr., never allowing it to vary 2° from that point. The cellar is well ventilated, and I also ventilate the hives considerably, employing both upper and lower ventilation.

The Number of Colonies.—D. L. Whitney, (21—27), Rockton,♂ Ills., on Feb. 6, 1885, says:

I notice that nearly all who write for the Bee Journal give, after their names, their number of colonies in the spring, and also the increase. I would like to have another figure added after the bees have come out of winter quarters in the spring; for instance, 72—95—87, thus indicating the loss, if any, during winter.

[Two numbers are enough. When the spring comes—the first will signify the number last fall; the second, the number with which to begin spring operations, thus omitting the former spring count.—Ed.]

The Bees Bringing in Pollen.7—Z. A. Clark (41—85), Arkadelphia,♀ Ark., on Feb. 6, 1885, says:

My Italian bees are bringing in pollen from alder, which grows along the creeks. In 1884 I began with all black bees excepting one colony of Italians which was wintered during the winter of 1883-84 in a small box 13x8x9 inches. It came through strong in bees, and now nearly all my bees are Italians and hybrids. They had some symptoms of bee-diarrhea, but none proved fatal. Here, our honey crop is gathered from linden, white aster, holly, rattan, cotton, corn, persimmon, maple, elm, cottonwood, and a great many other varieties of plants.

The Weather.—John Morris, Manston,⊙ Wis., on Feb. 9, 1885, says:

At this writing the snow is hurrying down upon us from the northeast, and how this weather will finally end interests all of us. The weather has been rather moderate for a week past, yet we are looking for the next cold blast.

Fastening Foundation in Frames.—Friedemann Greiner, Naples,+o N. Y., on Feb. 9, 1885, says:

While there are several good ways of fastening sheets of foundation in frames, still it has occasionally occurred to me that none of these would "fill the bill." Quite frequently I have wanted to fasten a single sheet or part of a sheet, or a queen-cell, in a frame without going to the trouble of melting up wax, or even going to the shop, and I have hit on different plans; but this process with the wax candle, which we find recorded in Grävenhorst's *Illustrierte Bienen Zeitung* for December, 1884, seems to just fill the vacancy. Perhaps it will not be necessary to tell how to make a wax candle. Have it 1¼ inches thick, and use common candle wicking (two thicknesses) for the wick. To operate with this candle, "hold it in a horizontal position, so the flame will melt off the wax, then let this drip to wherever you want a union between foundation or queen-cell and the wood." I have tried these candles and find that they work quite well, although for rapid work—for business—I shall stick to the old method.

Report, from Wm. Shier, Marlette, o+ Mich., on Feb. 5, 1885:

My report for the season of 1884 is anything but flattering. In the autumn of 1883 I put into winter quarters 100 colonies in apparently good condition; but when Jack Frost relinquished his grasp, and the spring of 1884 finally opened, there were only 5 colonies remaining, and those were in a very indifferent condition. However, during the summer they increased to 20 colonies, including one Italian nuclei which I purchased, and I obtained 500 pounds of surplus comb honey. My bees are now in apparently good condition, 14 of the colonies being in the Fisher chaff hive on the summer stands, and 6 in the Heddon hive in the cellar. The winter, so far, has been very cold.

Report, from E. W. Powell, Mankato,♀ Minn., on Jan. 22, 1885:

My father and I have 130 colonies in good condition in the cellar. We use a hive about the size of the Langstroth with the frames running crosswise. Our bees are Italian hybrids. We commenced the season of 1884 with 76 colonies, increased by division to our present number, and obtained about 2,000 pounds of extracted and 1,000 pounds of comb honey in one-pound sections, which is a good yield for the past season in this locality. I think that I have learned something during the past season, and one thing is, how to make bees build combs, as I have nearly 2,000 one-pound sections filled with nice, white comb for next season's use. Next season I shall try to learn how to get the bees to fill them.

Bees Bringing in Pollen.—B. F. Carroll, Dresden,♂ Tex., on Feb. 7, 1885, writes thus:

I have been very busy sowing oats. My bees are busy bringing in pollen, and appear to be in a fair condition. The weather is pleasant, with the mercury at 65° Fahr. at noon to-day.

Bees have Wintered Well.—W. A. Pryal, North Temescal,+o Calif., on Feb. 3, 1885, says:

I do not know when bees did better during winter than they have this winter. All danger is past, and everything is just a-booming. The year for farmers and horticulturists bids to be a good one, and it may also be said with certainty that it will be so for apiarists. I could name 100 flowers which are now in bloom here, but the *eucalyptus* is the favorite with the bees.

Report, from Samuel Hall, Topeka, o+Kansas, on Feb. 5, 1885:

I had 26 colonies of Bees last fall; and about Jan. 1, 1885, there was a day or two of warm weather when all of them had a nice fly and appeared to be all right. Yesterday I examined them and I think that every bee is dead. I have about the same number of colonies some 5 miles from here that I have not yet examined.

Dampness the Cause of Bee-Diarrhea. 8—Fayette Lee, (48—80) Cokato,⊙ Minn., on Feb. 7, writes thus:

Honey gathers dampness, moisture from the bees' breath accumulates on the combs, and the deeper the snow the damper will the cellar be. If any one will enter the cellar now or in March and raise the covers of the hives, he will find water dropping off and running down among the bees. Dampness causes strong colonies to rear brood, and if the young bees cannot have a fly, death is the result. Sugar syrup is the best feed to winter bees on, because it does not gather dampness. The bees eat a little pollen in winter to make them fat for spring work. They do not get enough pollen in winter, but they get too much water. If I find watery looking stuff in the bees that I sweep up on the cellar bottom, I am sure to lose lots of bees before May; but when dry cappings are found at the entrances of the hives, all is well. I think that Mr. Doolittle is mistaken in regard to old bees not eating pollen.

Bees Affected with Diarrhea.—Jesse White, Perry,⊙ Iowa, on Feb. 6, 1885, writes as follows:

The past season was very unfavorable for bees in this section, on account of its being so wet, I think. Last spring I started with 11 colonies, increased them to 23 during the season, and obtained about 50 pounds of honey. In the fall I built a board fence and put my bee-hives south of it, and packed the spaces between and back of them with prairie hay, and covered them over and shaded the fronts with boards to keep the bees from flying when it is too cold. They had a flight on Jan. 8, having been confined for about 40 days. They had another "fly" on Feb. 2 and 3. I have lost one weak colony, and found a dead queen at the entrance of one hive. Some of them have the bee-diarrhea badly, honey-dew being the chief cause, I believe. We have had a very cold winter thus far, the mercury ranging, for the past 7 or 8 weeks, from 10° to 35° below zero in the morning.

Bees Doing Well.—Henry Alley, Wenham,δ Mass., on Feb. 9, 1885, writes as follows:

My bees have been housed for nearly 11 weeks. I examined a few of them last week, and they seemed in as good order as when on the summer stands. The temperature of my bee-house varies from 25° to 55° above zero. There is no sub-earth ventilation to it. I do not let the temperature remain at 25° for more than 24 hours at any one time. I have a tin box in which I can place a kerosene lamp so arranged that the light cannot be seen, and the heat of the lamp will raise the temperature to 42°. By turning the wick up I can raise the temperature to 50°. Less than four quarts of bees have died from 43 colonies. They are not uneasy. I have one upward ventilator 10 feet in height and 6 inches square in the house. There is no mold or dampness in the bee-house.

Special Notices.

☞ Do not forget that on Feb. 23rd, 1885, the books will be opened for the subscription of Stock to "The Bee-Keepers' Supply Company of Newcomerstown, Ohio." Every bee-keeper that can should subscribe for some stock. This will certainly be a profitable investment for bee-keepers.—*adv.*

Catalogues for 1885.—We have received the following:

L. L. Triem, LaPorte City, Iowa.
S. Valentine & Son, Hagerstown, Md.
Industrial Publication Co., 294 Broadway, New York.—Books.
Bush & Son & Meissner, Bushberg, Mo.—Grape Vines.

☞ We often get a number of notices and advertisements on Mondays, intended for the next BEE JOURNAL. As we close the forms on Saturdays, all such notices *must be here* on Saturday morning, or cannot appear until the following week.

☞ Our rates for two or more copies of the book, "Bees and Honey," may be found on the Book List on the second page of this paper. Also wholesale rates on all books where they are purchased "to sell again."

FRUIT GROWING.—We have received a copy of an illustrated pamphlet of 64 pages, entitled "How to Propagate and Grow Fruit," by Chas. A. Green, editor of the *Fruit Grower*, Rochester, N. Y. Price 50 cents. To any one sending us a new subscriber for the Weekly or 4 for the Monthly, besides his renewal for either edition, we will present a copy of this book.

☞ We want one number each of the JOURNAL of Aug. 1866, Feb. 1867. Any one having them to spare will please send us a Postal card. We will take the first that offer them, and pay 25 cents each for the 2 numbers.

CLUBBING LIST.

We will supply the **American Bee Journal** one year, and any of the following Books, at the prices quoted in the last column of figures. The first column gives the regular price of both. All postage prepaid.

	Price of both.	*Club*
The Weekly Bee Journal	$2 00	
and Cook's Manual, latest edition	3 25	3 00
Bees and Honey (T.G.Newman) cloth	3 00	2 75
Bees and Honey (paper covers)	2 75	2 50
Binder for Weekly Bee Journal	2 75	2 50
Apiary Register for 100 colonies	3 25	3 00
Dzierzon's New Bee Book (cloth)	4 00	3 00
Dzierzon's New Book (paper covers)	3 50	2 75
Quinby's New Bee-Keeping	3 50	3 25
Langstroth's Standard Work	4 00	3 75
Root's A B C of Bee Culture (cloth)	3 25	3 10
Alley's Queen Rearing	3 00	2 75
The Weekly Bee Journal one year		
and Gleanings in Bee-Culture (A.I.Root)	3 00	2 75
Bee-Keepers' Magazine (A.J.King)	3 00	2 75
Bee-Keepers' Guide (A.G.Hill)	2 50	2 35
Kansas Bee-Keeper	3 00	2 75
The Apiculturist, (Silas M. Locke)	3 00	2 90
The 6 above-named papers	6 50	6 00

THOMAS G. NEWMAN,
925 West Madison Street., Chicago, Ill.

☞ For two subscribers for the Weekly BEE JOURNAL (or 8 for the Monthly) for one year, we will present a Pocket Dictionary, and send it by mail postpaid.

Advertisements.

APIARIAN SUPPLIES---1885.

ALL-IN-ONE-PIECE SECTIONS, Langstroth Hives, Section Cases, Shipping Crates, Brood Frames, Foundation, Smokers, and all other Supplies needed in the apiary. **ITALIAN BEES & QUEENS** in season. Send for Price-List. Address,
L. L. TRIEM, La Porte, City, Iowa.

JOHN HERR & CO., Beaver Dam, Dodge Co., Wis., Manufacturers of
HIVES AND SECTIONS.
7A2t 3B2t ☞ **Price List Free.**

W. Z. HUTCHINSON,
Rogersville, Genesee Co., Mich.,
can furnish just as neat, white, smooth and perfect, dovetailed, white poplar sections as there are made. Send for sample and prices.
4Dtf

TO BEE-KEEPERS.—WANTED, an appointment, for remuneration, in an Apiary, by an EDUCATED man practically acquainted with bees. References exchanged Address G.W., 140 Broadway, Rochester, N.Y.

Dadant's Foundation Factory, wholesale and retail. See Advertisement in another column.

Bee-keepers' Supplies,
Standard Langstroth,
Quinby Standing-Frame,
And all other kinds of **Hives,**
MADE TO ORDER,
Quinby Smoker a specialty.

I shall supply anything you need in the Apiary. Send for Illustrated Price List.
W. E. CLARK, successor to L. C. Root,
7A13t ORISKANY, Oneida County, N. Y.

Appeal to the U. S. Supreme Court

Of the Suit on the

"BOSS" ONE-PIECE

SECTIONS.

As there has been considerable contradiction concerning the present state of our lawsuit against A. I. Root, Medina, O., for infringement of our patent, by manufacturing one-piece sections, we have concluded to put the whole correspondence before the public. After reading it, we think there will be no misunderstanding of our position. The following was an editorial, published in "Gleanings in Bee-Culture" dated Dec. 15, 1884:

FORNCROOK'S PATENT.

At the convention at Lansing, Mr. Forncrook scattered large numbers of circulars (without date), containing the following notice:

READ THIS!

A word of explanation in regard to the infringement suit on the One-Piece Section, we deem necessary at this time.

I commenced suit against A. I. Root, in the United States Circuit Court, for the Northern district of Ohio; Stanley Matthews presiding. He decided that the patent was ANTICIPATED. I have taken an appeal to the United States Supreme Court at Washington, which will decide the case, and its decision will be final. If it goes against me I will submit, but if decided in my favor, I shall expect all who have infringed will pay me damages from date of the patent.

Some unprincipled parties are advertising that the Courts have decided that the patent is void. This is not the case, as it is before the United States Supreme Court at Washington, at the present time. When that Court gives its opinion it will be final, and until it does, any one infringing will be liable for damages, if the United States Supreme Court sustains the patent.

JAMES FORNCROOK.

I mailed one of these to Gen. M. D. Legget, ex-Commissioner of Patents, who, I presume most of our friends know, is as good authority on such matters as we have in the world. I asked him to give me a reply that I could publish. Here it is:

A. I. ROOT, ESQ.

Dear Sir:—James Forncrook has not taken an appeal from the decision of the Court here against him. If he does take an appeal hereafter, it will be only for the purpose of being enabled to bulldoze the market.

The decision here was rendered by Justice Matthews, of the United States Supreme Court, and no judge on the Supreme Bench is more liberal toward patentees than Justice Matthews is.

There is certainly no probability, and I do not believe there is any possibility, of the Supreme Court ever reversing the decision made by Justice Matthews here. To use the threat of appeal against purchasers of your honey-box blanks, is an outrage which I am sure your customers will not encourage by purchasing of Forncrook. Judge Matthews decided that Forncrook's alleged invention was fully anticipated by previous manufactures, and also by patent No. 157,473, granted to Hutchins, December 8, 1874, and no honest and intelligent man can ever come to any other conclusion than that, if Forncrook ever takes an appeal, it will be only to hold the case in the Supreme Court as long as he can; but he will be certain to withdraw it, and pay his costs before date of hearing.

Very Respectfully, etc.,
M. D. LEGGETT.

Cleveland, O., Dec. 13, 1884.

We referred the matter to our attorney, Judge Wells, of Detroit, Mich., and the following is his reply:

FORNCROOK'S PATENT.

MR. JAMES FORNCROOK, Watertown, Wis.

Dear Sir:—I have received yours of the 20th inst., enclosing a printed statement of A. I. Root, published in his "Gleanings in Bee-Culture," Dec. 15th. This statement contains a copy of a circular issued by you, stating that you had taken an appeal to the Supreme Court at Washington, in the case of Forncrook vs. Root; also a letter from Gen. M. D. Leggett to A. I. Root, dated December 13th, 1884, stating that you had not taken an appeal.

A brief statement will set this matter at rest. Judge Matthews rendered his decision August 6th, holding that your patent was anticipated by previous manufactures. Soon after you instructed me to take an appeal, and I applied to Judge Matthews to fix the amount of the appeal bond which the law requires. He did so. You then furnished me a bond, the sufficiency of which was certified in the manner directed by Judge Matthews.

Just as I was about to forward this bond to Judge Matthews for approval, I ascertained that Root's counsel, by their own negligence, had failed to enter their decree dismissing the bill, which they should have done August 8th. Of course you know the decree must be entered before an appeal could be taken.

Then they proposed a decree containing statements that Judge Matthews held your patent void. On the other hand, I proposed a decree striking out these statements, and simply dismissing your bill. Judge Matthews agreed with me, and the decree as I proposed it, was entered on the 24th of November, as of the date of August 8th, and an appeal expressly allowed to you. The appeal can now be perfected.

So that your statement in your circular that you had taken an appeal is strictly true. Gen. Leggett's statement that you had not taken an appeal, when you had begun to do so, and was prevented perfecting it by the negligence of Root's counsel, looks very like a quibble.

From the above statement you will see Judge Matthews expressly refused to decide that your patent was void.

I am not in the habit of trying cases in which I am counsel in the newspapers, but Gen. Leggett's statement impugning your good faith in taking an appeal, is entirely unwarranted, and worse. His predictions as to what the Supreme Court will decide, are not very valuable, when it is remembered he is one of Root's counsel. We will leave the case for the decision of the Supreme Court at Washington, which will be final. In the meantime you are justified in issuing the circulars, stating your rights and intentions.

Respectfully yours,
WILLIAM P. WELLS.

Detroit, Mich., Dec. 22, 1884.

The foregoing statement carefully prepared to give the exact facts in the matter, by Judge Wells, was promptly sent by us to Mr. Root, with the request to publish it, and thus give the readers of "Gleanings" the TRUTH in the matter. To this letter Mr. Root replied as follows:

JAMES FORNCROOK, Watertown, Wis.

Dear Sir:—Please excuse delay in answering your letter, recently received. I sent it at once to Gen. Leggett for explanation, and expected one before our issue of the 15th went to press. For some reason Leggett has not replied as promptly as usual, so we will have to delay till next issue. To avoid any thing in the papers looking like a controversy, I think Leggett's reply ought to be given in the same number.

Yours, A. I. ROOT.

Instead of publishing the statements of the lawyers on each side "in the same number" of his "Gleanings," Mr. Root published the following as an editorial:

In our December number, page 859, Gen. Leggett declared that Forncrook had not then taken an appeal. Mr. F. sent us a statement from his lawyer, declaring the appeal to have been taken, and that the clause in Forncrook's price list was fully authorized. I am sure I do not know who is right in the matter—perhaps both are right—Forncrook meaning that steps had been taken to take an appeal, and I think Gen. Leggett was certainly correct in saying that Mr. F. had not taken an appeal. Mr. J. A. Osborne, who had charge of the case, writes that on the 6th of January, Forncrook filed a bond with the clerk of the Circuit Court, for the purpose of taking an appeal, and I am to-day, Jan. 6th, officially notified that such an appeal has now been taken. I do not know that it makes any very great difference when the matter is commenced, more than that, if any statements have appeared in "Gleanings" not strictly true, it was because we were wrongly informed; and whenever we are satisfied that we have been wrongly informed, we are always ready to retract.

After waiting a full month for Mr. Root to publish Judge Wells' statement of the case, and when "Gleanings" for Feb. 1st came to hand without it, we wrote him the following letter:

WATERTOWN, WIS., Feb. 5, 1885.

MR. A. I. ROOT, Medina, O.

Dear Sir:—Your letter dated Jan. 5, 1885, came duly, and stated that you had sent Mr. Wells' communication in reply to your article on the appeal of the one-piece-section suit, to Gen. Leggett for explanation; that Leggett had "not replied as promptly as usual," and then you say, "we will have to delay it till our next issue." You then added that you thought "Leggett's reply ought to be given in the same number."

The next number came dated Jan. 15, but still Mr. Wells' reply was not given.

Your item on page 73 does not cover the ground. I am placed in "the lie" before your readers in the Dec. 15th number, and so left by the Jan. 15th issue. I fully expected you would have Mr. Wells' letter and Gen. Leggett's in "Gleanings" for Feb. 1, but that number has come to hand without any reference to it.

Will you please state by return mail why you have not done as you promised me in your letter of Jan. 5, as quoted above; and whether you will or will not do so; and, if you will do so, when?

Respectfully, JAMES FORNCROOK.

To this he replied as follows, positively declining to retract his false statements in "Gleanings:"

MEDINA, O., Feb. 9, 1885.

JAMES FORNCROOK, Watertown, Wis.

Friend F.:—At the time we wrote you, I did intend to publish your letter with Leggett's, but I don't see that I made any promise. I was waiting Leggett's reply, and when I received it, I was satisfied that too much space, if anything had already been given the matter. The editorial notice we gave, was, I think, very kind and courteous, under the circumstances. If any other bee-paper chooses to give space to the matter, it can do so, but I am pretty well satisfied that no more room will be occupied with it on the pages of "Gleanings." Yours, A. I. ROOT.

CONCLUSIONS.

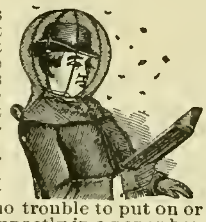
By the foregoing we have proved, beyond successful contradiction—

1. That we had taken an appeal to the Supreme Court of the United States, against the decision of Judge Matthews that the patent on one-piece sections was ANTICIPATED. The decision of that Court will be final.
2. That we were only prevented from perfecting that appeal by the negligence of Mr. Root's counsel—and that the appeal is dated Aug. 8, 1884.
3. That our announcement to bee-keepers, quoted at the head of this article, was fully warranted and strictly correct.
4. That Mr. Root's refusal to publish the facts, when sent him for that purpose, (and thereby clear us from his charge of falsehood), is unjust and unreasonable; and if he had any regard for TRUTH he would have published it as widely as he did his statement to the contrary.

JAMES FORNCROOK & Co.

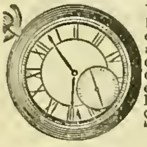
Watertown, Wis., Feb. 13, 1885.

A NEW BEE-VEIL.



There are five cross bars united by a rivet through their center at the top. These bars are buttoned on to studs on the neck-band. The bars are of best light spring steel; the neck-band of best hard spring brass; the cover is of handsome light material. It is very easily put together, no trouble to put on or take off, and folds compactly in a paper box 6x7 inches by one inch deep. There would be no discomfort in wearing it either day or night, and the protection against Mosquitoes, Flies, Bees, Gnats, etc., is perfect. The weight of the entire Veil being only five ounces. **Price, by Mail or Express, $1.00.**

ALFRED H. NEWMAN,
923 West Madison Street. Chicago, Ill,



We will send you a watch or a chain BY MAIL OR EXPRESS, C. O. D., to be examined before paying any money and if not satisfactory, returned at our expense. We manufacture all our watches and save you 30 per cent. Catalogue of 250 styles free. Every Watch Warranted. Address
STANDARD AMERICAN WATCH CO.,
PITTSBURGH, PA.

46A26t

Muth's Honey Extractor,

Square Glass Honey Jars, Tin Buckets,
Langstroth Bee-Hives, Honey-Sections, etc.

Apply to **C. F. MUTH,**
976 and 978 Central Ave., **CINCINNATI, O.**

☞ Send 10c. for Practical Hints to Bee-Keepers.

HELP for working people. Send 10 cents postage, and we will mail you *free*, a royal, valuable sample box of goods that will put you in the way of making more money in a few days than you ever thought possible at any business. Capital not required. You can live at home and work in spare time only, or all the time. All of both sexes, of all ages, grandly successful. 50 cents to $5 easily earned every evening. That all who want work may test the business, we make this unparalleled offer: To all who are not well satisfied we will send $1 to pay for the trouble of writing us. Full particulars, directions, etc., sent free. Immense pay absolutely sure for all who start at once. Don't delay. Address STINSON & CO.
51A1y Portland, Maine.

65 *ENGRAVINGS.*

THE HORSE,

BY B. J. KENDALL, M. D.

A TREATISE giving an index of diseases, and the symptoms; cause and treatment of each, a table giving all the principal drugs used for the horse, with the ordinary dose, effects and antidote when a poison; a table with an engraving of the horse's teeth at different ages, with rules for telling the age of the horse; a valuable collection of recipes, and much valuable information.

Price 25 cents.—Sent on receipt of price, by

THOMAS G. NEWMAN,
925 West Madison Street, CHICAGO, ILL.

The Bee-Keepers' Supply Company,

Of New Comerstown, Ohio.

THE above company has been incorporated under the laws of the State of Ohio, with a Capital Stock of $30,000, with A. M. Beers, W. R. Shields, A. E. Munn, R. L. Shoemaker, and S. F. Timmons as incorporators. The stock of said company will be divided into 1,500 shares of 20 dollars each. Books will be open for subscription to the above stock, on Monday, Feb. 23, 1885, at New Comerstown, Ohio. Ten per cent. of stock subscribed payable at time of subscription; twenty per cent. payable monthly thereafter, provided that all stock must be paid in full by September 15, 1885. Provided, further, that full payment of stock subscribed may be made at any time before due. Remittance for stock duly acknowledged and certificate of same issued when paid in full. Remit by Express, N. Y. Exchange, Registered Letter, or P. O. Money Order. Address all communications to the above Company.

Bee-Keepers' Supplies.

WE have added to our LARGE FACTORY a **SPECIAL DEPARTMENT** for the

Manufacturing of Bee-Hives,

AND

White Poplar Dovetailed SECTIONS,
Also, One and Two-piece

☞ All Orders will be filled promptly at the **LOWEST FIGURES.**

Send Stamp for Catalogue and Samples.

The H. F. MOELLER M'f'g Co.
1A26t DAVENPORT, IOWA.

BEES **For Pleasure and Profit.** A New Book of 172 pages, profusely illustrated, by Rev. Wm. Ballantine. Prices, 50 and 75 cents. Address the author at
1A5t New Concord, Muskingum Co., Ohio.

THE

VICTOR HIVE

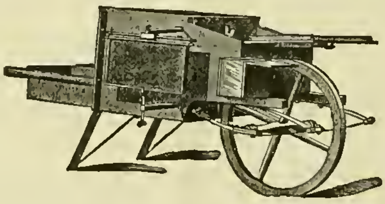
is operated upon a new principle by which the sections are placed in vertical lines with the brood frames; continuous passages being effected in a

Practical Manner!

It may be arranged for any form of the Langstroth Frame; has been fairly tested, and is the **Best Hive** made for Comb Honey. May be used for Extracting. Send for my 24-page Catalogue and Price List. Address

DR. G. L. TINKER,
1Atf NEW PHILADELPHIA, O.

SYSTEMATIC AND CONVENIENT.



DAVIS' PATENT HONEY CARRIAGE,
REVOLVING COMB-HANGER,
Tool Box and Recording Desk Combined.

Price, complete, only........... $18.00.

For sale by **ALFRED H. NEWMAN,**
923 West Madison Street, CHICAGO, ILL.

$200,000 *in presents given away.* Send us 5 cents postage, and by mail you will get *free* a package of goods of large value, that will start you in work that will at once bring you in money faster than anything else in America. All about the $200,000 in presents with each box. Agents wanted everywhere, of either sex, of all ages, for all the time, or spare time only, to work for us at their own homes. Fortunes for all workers absolutely assured. Don't delay. H. HALLETT & Co.
51A1y Portland, Maine.

ATTENTION, BEE-KEEPERS!

AS I have greatly increased my facilities for the **Manufacture of APIARIAN SUPPLIES,** it will be to your advantage to send for my **Illustrated Price List.** Free to all. **Cash paid for Beeswax.**

A. B. HOWE,
5A3t COUNCIL BLUFFS, IOWA.

BEESWAX.

I pay **25c.** per pound delivered here, for yellow Beeswax. To avoid mistakes, the shipper's name should always be on each package.

ALFRED H. NEWMAN,
923 West Madison St., CHICAGO, ILL.

New and Enlarged Edition

OF

BEES and HONEY,

OR THE

Management of an Apiary for Pleasure and Profit; by

THOMAS G. NEWMAN.

Editor of the Weekly Bee Journal.

925 West Madison Street, Chicago, Ill.

It contains 220 profusely illustrated pages, is "fully up with the times" in all the improvements and inventions in this rapidly developing pursuit, and presents the apiarist with everything that can aid in the successful management of the Honey-Bee, and at the same time produce the most honey in its best and most attractive condition.

PRICE—Bound in cloth, $1.00; in paper covers, 75 cents, postpaid.

☞ **A Liberal Discount to Dealers, by the Dozen or Hundred.**

☞ The Monthly BEE JOURNAL for a year and the pamphlet "Bees and Honey," will both be sent for $1.

FREE! FREE! Solid Gold and Silver Watches, Chains, Rings, and 100 other useful articles **absolutely Free! 50 Elegant Gold Leaf Embossed and Souvenir Cards** with your **name** in New **script** Type, **10c., 2 packs** and **8 Elegant French Dolls** with **wardrobe** of **82** pieces, **20c 8 packs** and this beautiful **Rolled Gold Ring, 30c.** Our styles of **Imported, Satin Fringe** and **Real Silk Florals are unequaled. Full instructions** how to **obtain** all the above **articles free,** also **a full line of samples free with every order. We want Agents,** and offer **Gold to those who seek it, Agents make $5.00** per day handling **our goods.** Send **at once;** don't **miss** this opportunity as this **offer may not be repeated. Address WEST HAVEN MANUFACTURING WORKS, West Haven, Conn.**

CARDS & KNIFE FREE!

50 different designs **Birds, Swiss Floral, Ivy Wreath, Gold Panel, Sentiment, Oval Embossed, Summer, Winter, Moonlight & Marine scenes,** all in beautiful colors on superfine enameled board

with your name in fancy type 10c. 11 pks and this beautiful Pearl Handle 4-bladed Knife **(for lady or gent)** $1.00 By getting 10 of your friends to send with you, you obtain an elegant knife and a lovely pack of cards FREE. **CAXTON PRINTING CO., Wallingford, Conn.**

40 **Hidden Name, Embossed** and **New Chromo Cards,** name in new type, **an Elegant 48 page Gilt bound Floral Autograph Album with** quotations, 12 page Illustrated Premium and Price List and Agent's Canvassing Outfit, all for 15 cts. SNOW & CO., Meriden, Conn.

Bee-Keepers' Badges at Fairs.

We have some **ELEGANT RIBBON BADGES,** having a rosette and gold Bee, for bee-keepers' use at Fairs, Conventions, etc. Price 50 cents each, by mail, postpaid.

Address, **THOMAS G. NEWMAN,**
925 West Madison St., CHICAGO, ILL.

BOND & PEARCH.

(ESTABLISHED 1860.)
163 South Water St., CHICAGO,

COMMISSION MERCHANTS!

Make a Specialty in HONEY.

Consignments solicited. Will make liberal advances on shipments. Refer to Hide and Leather National Bank.
7B6

WEEKLY EDITION
OF THE
AMERICAN
ESTABLISHED IN 1861
OLDEST BEE PAPER IN AMERICA
BEE JOURNAL
PUBLISHED BY
THOMAS G. NEWMAN,
EDITOR AND PROPRIETOR,
925 WEST MADISON-STREET, CHICAGO, ILL.
Weekly, $2 a year; Monthly, 50 cents.

Vol. XXI. February 25, 1885. No. 8.

"Northwestern."—Dr. C. C. Miller, President of this Society, asks for a vote by mail, on the subject of having the next meeting at Detroit with the "National" Convention:

EDITOR BEE JOURNAL:—There seems to be what may be a general wish that the "Northwestern" should omit its meeting at Chicago next fall, and unite with the "National" at Detroit on Dec. 8-10. The officers have, I think, no right to make any change except upon vote of the members. May I trespass so far upon your time and patience as to ask you to request each member of the "Northwestern" to send you a postal giving his vote for Detroit or Chicago, and then the majority can rule?

☞ A correspondent in the *Apiculturist* accuses the BEE JOURNAL of copying the Query Department from that paper; and that assertion is endorsed by its editor. Both are a little *too fast*. In April, 1879, we had some Queries on abnormal swarming, and desiring to obtain the opinions of several apiarists on the subject, we sent the Queries to them, requesting replies (just as we are now doing). The queries and replies were published in the BEE JOURNAL for May, 1879—*four years before the Apiculturist was born!* Now, whose ox is gored? If there has been any copying, perhaps the *Apiculturist* is the guilty party! But WE shall not complain. Such *jealousy* would be foolish. We hope the "*Api*" may succeed, but it can hardly hope to do so, by such narrow-mindedness.

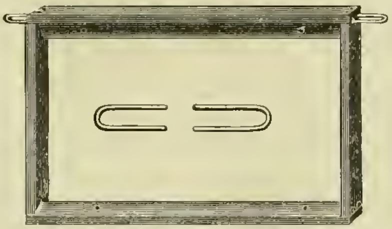
☞ Mr. J. B. Mason, of Mechanic's Falls, Maine, has sent us a sample of his dovetailed sections, made of white wood. They are exceedingly nice.

Another Apiarist Gone.

We are much pained to hear that Mr. William Williamson, of Lexington, Ky., died on the 13th inst. To him as much as to any other person in Kentucky are we indebted for the advanced state of apiculture in that State. He was a worker "in the hive of nature," and this news will be received with regret by apiarists generally. Just upon the eve of the assembling of the International Congress, at New Orleans, one of its advocates and a member of the Committee has fallen. This will cast a gloom over that meeting. Our sympathies are with the bereaved in this hour of sadness and sorrow.

We hear a rumor that another Kentucky bee-keeper has suddenly died—a pioneer—but as there is a bare possibility of its not being verified (it may be another man of the same name) we will not announce the name till further information is received. One by one, the pioneers are departing this life.

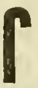
☞ Mr. C. L. Hedell, Galesburg, Ill., has sent us one of his reversible frames. The illustration will give a good idea of it. The top and bottom bars are alike and are V-shaped, and have an extra groove running their entire length. The brass staples slide into these grooves, at the ends, and form the hanging portion of the frame. All that is necessary to reverse the frame at will, is to slip out these staples at the top, put them into the bottom, and place the frame inverted into the hive. Mr. Hedell used these frames last season, says that they can be made at a very trifling cost, and likes them very much. The sample frame is placed in our Museum.



Catalogues for 1885.—We have received the following:

A. H. Duff, Creighton, O.
Earle Clickenger, Columbus, O.
Lucio Paglia, de Castel S. Pietro, dell 'Emilia, en Italia.
R. M. Morrill, Plymouth, Ind.—Grapes.

☞ We have received another attachment for reversible frames. It consists of a piece of sheet iron bent something like this hook at the top.



The long part must be screwed to the center of the side-bar of the frame, which can be reversed at pleasure; the upper hook rests on the rabbets on the side of the hive, the same as does the ordinary flange of the top-bar. It can be attached to any frame by cutting off the end of the top-bar. A small screw through a hole in the upper part of the sheet-iron holder, will keep the frame from tipping, or the hole can be punched out instead of being bored, and the rough part of the hole can be let into the frame with a pen-knife, and hold it steadily. This device is sent us by D. L. Whitney and H. A. Webber, of Rockton, Ill. Mr. W. thinks that they can be made for a little more than one cent a frame.

☞ The English *Farmers' Gazette* says that the report of the county analysts for Kent, states that the preparation sold by grocers as California honey is in reality a mixture of honey with 50 per cent. of corn syrup. A Sheerness grocer was prosecuted for selling this preparation to a policeman who demanded honey; but as it was plainly labeled "California Honey-Dew," the bench declined to convict.

It is a pity that such spurious stuff could not be driven from all the markets of the World, by stringent legislation.

☞ We have received a brood-frame from J. W. Tefft, Collamer, N. Y., which has the ends of the side-bars and top and bottom-bars full width (1½ inches) and the middle portions cut down to one inch; the top-bar is also cut lengthwise into 2 pieces to admit the foundation between them before being nailed together. It is much the same as many of the frames in use in Europe.

☞ The Sixth semi-annual meeting of the Western Bee-keepers' Association will be held in Unity Chapel, at St. Joseph, Mo., on Felix St., between 7th and 8th streets, on Thursday and Friday, April 9 and 10, 1885, commencing at 10 a. m. on April 9. All interested in bee-culture are invited to attend and make the meeting as interesting as possible. A full programme will be prepared and a general good time may be expected.

C. M. CRANDALL, *Sec.*

QUERIES

WITH

REPLIES by Prominent Apiarists.

Bees Expelling Water from Sweets.

Query, No. 19.—Some have asserted that bees have the power of expelling water from diluted sweets, when on the wing, etc. Now, I long to see this matter subjected to the eye of science. Has there been a gland discovered whose function, resembling that of the kidneys, seems to be that of separating water, etc.?—La Porte City, Iowa.

Dr. G. L. Tinker replies as follows: "Bees never expel water from diluted sweets when on the wing. This whole question is intimately related to one of the most common causes of bee-diarrhea. When from a low or a moderately cool temperature bees are unable, by pulmonary or cutaneous transpiration, to expel water from sweets, whether diluted or not, water will accumulate in the intestines; but there exists all the more danger of such accumulation if the winter stores of sweets are diluted or thin from any cause, such as late-gathered sweets or thin sugar syrup that the bees are unable to evaporate to the proper consistency for sealing up before winter sets in. Another cause of thin honey or syrup, is a very humid atmosphere and dampness in the hive. Any of these causes where there is long confinement, especially, will cause bee-diarrhea. Diluted sweets, under any circumstances, must be considered unhealthy for bees whenever the conditions of temperature in the hive are such that the evaporation of sweets by transpiration cannot readily take place. Bees have no gland corresponding to a kidney; hence all normal expulsion of water from bees is by the lungs and the surface of the body."

Fall and Spring Weight.

Query, No. 20.—What becomes of the difference between fall and spring weight of colonies, sometimes amounting to 25 or 30 pounds, unless it evaporates from the bodies of the bees? What becomes of it, especially when the bees have no flight for several months, as the debris usually remaining in the hive in spring is of trifling amount?—Cato, Mich.

W. Z. Hutchinson, says that "the loss can be accounted for by perspiration and respiration."

G. W. Demaree answers thus: "The natural food of the honey-bee contains the least possible amount of gross matter; and as bees do not take on fat and thereby increase in weight, the digestion of honey in the stomach of the bee, is equivalent to its combustion. The honey is 'burned up,' and passes into the aeriform state."

Dr. C. C. Miller replies thus: "The quantity of water often seen running out at the entrances of hives in winter, shows a large amount of evaporation, probably enough to account for all difference in weight."

Prof. A. J. Cook remarks thus: "That there is much vaporous excretion through evaporation, is certain. This is true of all animals, and especially when the food is mostly of the carbo-hydrates."

G. M. Doolittle replies as follows: "Mainly by evaporation, and partially by the excrement, and brood which all good colonies commence to rear in January, February and March."

James Heddon answers thus: "It that 25 or 30 lbs. of food that is gone, was very free from solid nitrogenous matter, it passed off in liquid or vaporous form, by way of sensible and insensible perspiration and respiration, except the small amount to be found in the bodies of the bees (not enough to disease them). If, on the other hand, the stores do contain much nitrogenous matter, you will find that it partly passed in vapor (as above), and partly in the bodies of the diseased bees, and on top of the frames' sides of the hive and combs, and we call it bee-diarrhea."

J. E. Pond, Jr., remarks as follows: "This question brings us face to face with the 'pollen theory,' and shows its impracticability. Stores are used as a matter of course; we know this for we find them gone; the residue or *debris* left in the hive, or found in front, after being removed by the bees, is too inconsiderable to account for the loss to the colony. Bees when confined to the hive under right conditions, use the least amount of stores possible; the food thus taken is used up largely in producing muscular force, and is of such a nature, that very little residue forms—not enough to overload the intestines in a long period of time, and what is formed is passed off in a dry state. Tests made on the human system have shown that by promoting excessive perspiration, and the use of concentrated food, the amount of *debris* passed off from the intestines is astonishingly small. We can reason by analogy that our bees are similarly circumstanced, especially when we know that nature always works in harmony with herself so long as her laws are not violated. I shall look with much interest to answers to this question."

Feeding Bees in Winter.

Query, No. 21.—What is the best method of feeding a colony of bees that is found to be without food in the hive in midwinter, if the colony is out-of-doors or in the cellar?—Solon, Maine.

Dr. C. C. Miller says: "Give combs of sealed honey."

Prof. A. J. Cook replies thus: "Without experience, I should say by placing cakes of the 'Good candy' above the frames. We should never allow our bees to be in this condition."

G. M. Doolittle answers thus: "By setting in frames of sealed honey or combs filled with syrup. Such combs of feed should be warmed for 6 hours or so before being placed in the hive."

J. E. Pond, Jr., remarks thus: "If out-of-doors, put a small quantity of 'Good candy' on top of the frames, and cover in close and warm. Keep up the supply in the same manner until the advent of settled warm weather. I can imagine no better way for cellar wintering."

James Heddon answers as follows: "Many report success with sugar candy. Could I succeed with it, I should prefer it. In the few instances tried, I have failed. I now use a broad, flat feeder, with a large open communication (½ the size of the whole top of the hive). I put warm sugar syrup into it, pack the hive and feeder well, and carry it into a warm place, when the bees carry the liquid into their combs from the feeder, with perfect success."

G. W. Demaree replies as follows: "To feed bees successfully in cold weather, the feed must be placed in reach of the cluster. When you have no frames of sealed honey to give them, the next best way is to make a bag of the thinnest cotton-cloth you can find—say 5x8 inches in size; partially fill the bag with candied honey, or with sugar made into 'mush' by mixing it with warm water, or what is better, melted honey. Fill the bag so that it will assume a flat shape, and press it down flat, right over the cluster of bees, and cover all snugly with the bee-quilts. This is safer than any bee-candy. The bees will draw the feed through the cloth, and in process of time cut through to the more solid contents of the bag."

W. Z. Hutchinson advises the following: "Make a soft candy and lay it upon the tops of the frames, covering it up warm so that the bees can cluster upon it."

Location for an Apiary.

Query, No. 22.—Which is the better location for an apiary, where the bees are wintered out-of-doors, in a low location where it is somewhat frosty and reasonably well sheltered from the storms by hills, or one on high ground free from dampness, and with no shelter from the winds except what may be made by a tight board-fence?—East Liverpool, O.

G. W. Demaree answers thus: "I have moved my apiary three times since I located at this place. A low, sheltered site for the hives, has given the best satisfaction."

Dr. C. C. Miller says: "I should prefer the low ground sheltered by hills."

Prof. A. J. Cook replies thus: "I should prefer to have them up well and sheltered by a wind-break."

J. E. Pond, Jr., answers as follows: "For myself and my own locality, I should prefer the low location. I consider that high, cold winds and sudden storms, and the consequent changes produced by them, cause far more injury than severe cold can possibly do in a frosty location, even if somewhat damp; as dampness of a locality can have but little effect in frosty weather, upon a colony of bees that is worth wintering."

W. Z. **Hutchinson** replies as follows: "The only objection to the low ground is that the cold air settles into the hollows, and I think that I should prefer the low ground. The laws of atmospheric drainage should be understood; there may be some outlet for the cold air in the low location."

James Heddon remarks thus: "I would prefer the low location (supposing no trouble from water), but so far as successful wintering is concerned, this is one of the 'great' factors in the problem. They will live or die in either place."

G. M. **Doolittle** says: "I should choose the low location every time, for various reasons; prominent among which are, the temperature at the low location will average the warmest in early spring, less bees will be lost by high winds, and the laden bees will travel down hill rather than up hill."

Bees Affected with Diarrhea.

Query, No. 23.—I put 137 colonies into my bee-cellar on Nov. 29, 1884, all in good condition with plenty of honey. I did not feed any sugar syrup last fall, and now 6 of the heaviest ones have the diarrhea. Only these 6 have brood. They have been quiet all the time, and the tmperature has been steadily at 44°, for I go to see them every day. What can I do to save them? They are old bees that are affected, and in the 137 colonies there was no brood, for I was careful to look them over when I put them in. Why is it that some of them have the diarrhea and others do not have it?—Racine, Wis.

Dr. C. C. **Miller** answers thus: "See that the cellar is well ventilated, and perhaps by a little lower temperature."

J. E. **Pond, Jr.**, says: "I apprehend that all of us would like a positive and certain answer to this question. I should myself, for one, and would pay a good price for it, too."

G. M. **Doolittle** replies thus: "The querist answers the last question by saying that 'only these 6 have brood.' The brood caused the bees to eat pollen, and form it into chyme, which was passed around for food. It is doubtful whether anything can be done to save the bees, where diarrhea begins thus early."

W. Z. **Hutchinson** remarks thus: "When bees have the diarrhea in midwinter, it is almost, if not quite, impossible to save them; and I can only suggest, as an experiment, that the bees be given a flight, artificially, by carrying one colony at a time into a warm room, taking away their combs of honey, and giving them dry, clean combs, and changing their food to cane sugar. I would put soft candy over the frames and cover it so that the bees can cluster upon it. The greater degree of heat generated by the heaviest colonies, may have induced brood-rearing and consumption of pollen. Had there been no nitrogenous food in the hive, brood-rearing and diarrhea would have been impossible."

Dr. G. L. **Tinker** answers as follows: "This query presents an argument against allowing a colony to have more winter stores than what is barely necessary to bring it through, or until it can be overhauled and supplied with fresh stores. A large amount of stores predisposes to brood-rearing at all times, while a colony short of stores never breeds very much. Late fall and early winter brood-rearing, without doubt, may cause diarrhea, the young bees causing most of the uneasiness and the breaking of the cluster. Early spring brood-rearing appears to be a normal occurrence, and the young bees then produced are usually able to fly out before great uneasiness occurs. To save them, see answer to No. 24."

First Symptoms of Bee-Diarrhea.

Query, No. 24.—What should be done with a colony of bees in winter quarters in the North, when the first symptoms of bee-diarrhea appear, if the colony is out-of-doors or in the cellar? To make the answer complete, state what should be done in midwinter when flight is impossible, later, when occasional flight is possible, and in early spring before any pollen is to be found.—Solon, Maine.

Prof. A. J. **Cook** answers thus: "If the temperature in the cellar was above 48° Fahr., I should cool it. I have given bees a flight in a warm room, but this is some trouble. I have known this to be done several times. Very often the colony will do very well even if left alone."

J. E. **Pond, Jr.**, says: "It would require a long article to give the information desired in this question, and even then the answer would be largely theoretical."

Messrs. **Dadant & Son** reply as follows: "Keep the bees warm and leave them alone until a warm day comes. The more you will disturb them in cold weather, the worse it will be. We would give the same answer to No. 23."

Dr. C. C. **Miller** advises the following: "Do all you can to keep the temperature of the cellar right, and especially to have the air of the cellar pure, and perhaps contracting the space of the brood-nest, if not already done."

W. Z. **Hutchinson** remarks thus: "As an experiment, I would try giving the bees a flight by carrying them into a warm room, giving them clean, dry combs, and putting a soft candy over the frames, covering it up so that the bees can cluster upon the candy. If bees continue to show signs of diarrhea after they can have an occasional flight, I would change their combs and food as above."

James Heddon replies thus: "Not saying what can or cannot be done, I will say that, practically, the best thing to do, is to give up that colony, and study the cause and prevention that may prevent the disease during the next winter. In this locality, I have never made any practical success in devoting time to saving colonies that had diarrhea in mid-winter."

G. M. **Doolittle** says: "After trying all plans of cure, I now let them alone, for it is only a waste of time to fuss with them. If a warm day occurs and the bees are not too badly reduced, a flight should be given them by shoveling snow from the hive, or removing them from the cellar; yet for all this the bees will generally be dead before June, if they have the diarrhea bad enough to spot the combs and the inside of the hive."

Dr. G. L. **Tinker** answers thus: "It is much like trying to gather up 'spilt milk' to try to save a colony of bees with diarrhea when flight is impossible. In the one case care should be taken not to spill the milk, and in the other, to properly prepare the bees for winter. Where it is possible, I would advise raising the temperature of the interior of the hive to facilitate transpiration and the expulsion of moisture, by placing a thick, all-wool mat over the frames. If in a cellar, raising the temperature to 48° or 50° by artificial heat, together with free upward ventilation, may aid the bees to find relief. Later on, when occasional flights are possible, I would contract the brood-chamber and give better protection. If the honey in the combs was thin, I would give good sealed honey or 'Good candy.'"

Bees Breeding Without Pollen.

Query, No. 25.—Will bees breed without any pollen in the hive?—Chesaning, Mich.

James Heddon answers thus: "No. If there is no bee-bread in the cells, and no floating pollen in the liquid food, no."

Dr. G. L. **Tinker** says: "No."

W. Z. **Hutchinson** replies thus: "Bees cannot rear brood without nitrogenous food, and there may be enough in some honey to enable the bees to rear brood to a very limited extent."

G. M. **Doolittle** remarks as follows: "I believe that they will, to a certain extent, where their food is honey. If sugar syrup is the only food, I think that no brood will be reared."

Dr. C. C. **Miller** replies as follows: "I think that they will not commence breeding without pollen, and continue but a short time when it is taken away."

Prof. A. J. **Cook** says: "Never."

J. E. **Pond, Jr.**, answers thus: "As a rule, bees will not breed without pollen or some substitute. Sometimes honey will be found to contain a larger proportion of floating grains of pollen than at other times; at such times a little brood will be started, but not enough to prove of much value. I have tested the matter to some extent, and found that brood-rearing ceased when I removed the pollen, and started up again when I replaced it."

CORRESPONDENCE.

Explanatory.—The figures BEFORE the names indicate the number of years that the person has kept bees. Those AFTER, show the number of colonies the writer had in the previous spring and fall, or fall and spring, as the time of the year may require.

This mark ⊙ indicates that the apiarist is located near the centre of the State named: ♁ north of the centre; ♀ south; ○+ east; +○ west; and this ♂ northeast; ∖○ northwest; ○∖ southeast; and ♀ southwest of the centre of the State mentioned.

For the American Bee Journal.

The Cause of Bee-Diarrhea.

C. W. DAYTON, (50—114).

After a multitude of variously conducted experiments, I have come to the conclusion that prevalent bee-diarrhea is caused by the moisture, which condenses in the brood-chamber, being taken into the stomach of the bee for the purpose of carrying it out of the hive, and with the same design that a bee drags its dead sister across the alighting-board.

The opportunity to leave the hive being withheld by unpropitious circumstances, the water remains at the disposal of the bees' digestive organs, and there is probably no doubt but that it would produce disorder. The moisture is taken up that the brood-nest may be a fit place for the rearing of brood, and when the pollen is taken away, their anticipation of brood-rearing vanishes, and self-preservation is the height of their energies.

By this theory I have, as yet, been unable to find bees that might be classed as simpletons, and while, like all theories, it may require experience in order to understand its adaptation, I trust that it will always be found adjustable but never "reversible." As would naturally have been supposed, there have appeared in the bee-papers instances of cases of bee-diarrhea for exposition by the apiarian logicians, and, to say the most, quite a number have been "got rid of." But when a bee-keeper states that the colonies in the lower part of his cellar had the diarrhea while those in the upper part and also those left out-of-doors wintered well, confusion, it seems, is complete.

I do not wish to answer this insomuch as to injure its theoretical adaptability to other causes, but I will take it exemplarily that there may be brought to view, by the aid of what I consider to be correct reasoning, some food for thought which it contains, and which is useful for the support of the conclusions which have already been mentioned.

Every one knows that when cold weather begins and the temperature commences to lower, we have to increase the amount of fuel placed upon the fire if we prevent the accumulation of frost on the window-panes; and every one should know the other preventive to be the reduction in the size of our rooms. It is also plain that if the temperature were always the same there would be the necessity of a steady fire. This is exactly the requisition of affairs on the inside of a bee-hive. But how do we find it? We find the number of bees decreasing and the colony going into a slumber, during which the circulation and respiration is nearly suspended and the production of heat proportionately and gradually lessened until there is barely a draft above the cluster. With the exhalation of the cluster producing so little draft, and being in a temperature which enables it to carry the moisture out at the entrance of the hive, and yet not be too warm for perfect quietness, it would need but a slight fall of temperature to condense moisture on the inside of the hive. The colder the air outside of a bee-hive the greater is the force exerted on the warm air inside of the hive, which force is of the same nature as that exerted upon the air in a cup when it is plunged bottom upward into water. This is the force which stops the circulation of air some distance from the point of exit from the hive and where the condensation takes place which causes water to run out at the entrance. Hence, it should be preferable in scrutinizing for moisture to remove the bottom-board and investigate from below.

It should be remembered that a temperature favorable for the condensation of moisture within the hive is also disposed to confine the bees in a cluster, until a rise in the temperature gives them their liberty. Consequently, to winter well, colonies in hives having tight top-boards should have their brood-chambers contracted so that the exhalations of the cluster may be able to produce a current of air passing out at the bottom of the hive, or be provided with ample upward ventilation, as the exhaled moisture must be disposed of, and as condensation begins where aerial circulation ends.

Nothing, perhaps, better imitates water when getting into a cellar than air of a lower temperature than that of the cellar. I find the difference in temperature at the bottom and top of an air-tight cellar 7x7x16 feet and containing 100 colonies of bees, to be 2°. On the introduction of a 2-inch pipe from the outside, carrying air whose temperature is 20° above zero, the difference is 4½°; and with a 6-inch pipe the difference is 21°, and would be maintained. In accordance with this, how many rat holes would it require to hold the temperature in the lower part of any cellar at the freezing point? The colonies are scarce that would not with an ordinary confinement allow the condensation of moisture in their brood-chambers in such a temperature.

Moreover, successful wintering is more certain in a warm temperature which prevents the condensation of moisture inside of the hives containing the weakest colonies, or in a temperature so low as to restrict the bees from running about the brood-chamber and which should be unrelentingly maintained until the bees are afforded a flight. This should elucidate the successful wintering of bees in warm cellars or buried in snow.

Bradford, ♁ Iowa.

For the American Bee Journal.

Hybrids vs. Italians.

G. J. MOLONEY.

A Danish bee-man and myself agreed to send, last spring, for two colonies of Hybrids and two of Italians in order to decide their superiority. Although heavily handicapped by reason of indifferent pasturage and cold winds blowing off the Lake, the hybrids proved that they were far ahead of the Italians.

Prof. Fowler, of phrenological fame, advocates a union of persons possessing large reflectives with those having large perceptives, as children inherit the most prominent traits of their parents. On the same principle brown German bees are crossed with the Italians. We are told that "Celtic imagination and fire crossed with Saxon will and persistency, has given Great Britain a race of demi-gods."

The Detroit *Evening News* says that Burke Corcoran, America's greatest orator, is of "mixed Norman and Celtic stock which has given Great Britian her greatest political names and which now forms the ablest section of the British Parliamentary Party." Some of America's greatest statesmen are also of mixed origin.

The Plymouth Rock fowl, the "leading strain," is a union of the black Java with two other breeds. England's race-horse was also produced by crossing. The gentle Carniolan bees, about which so much has been said, appear to be a cross between the German and Italian bees. They are very obedient to the admonitions of the smoker. Last fall my bees obtained quite a quantity of pollen, and I am now treating them with salt, water, milk and honey, as our "knowing ones" claim they are specifics for bee-diarrhea.

Rogers City, ♁ Mich.

For the American Bee Journal.

Do Bees Really Hibernate?

WM. JNO. HINCHEY, (5—11).

I really think that there has been nearly enough said about hibernation, a word which, in my opinion, should never have found its way into the columns of a bee-paper; and I cannot imagine how a man like Mr. W. F. Clarke, usually so level-headed, should allow himself, in the present instance, to be carried away by the imaginary conviction that he has made a great discovery. I hope that the following remarks may lead to that clearer light which we as apiarists are seeking after.

Mr. Heddon mentions, on page 716 of the BEE JOURNAL for 1884, two different states or conditions of bees during life; viz., the fully-animated, and the semi-hibernatious or state of perfect quietude. To these may be added a third condition; viz., a state of *coma* or stupor produced by cold. I wish to make a few remarks on each of these conditions, and their relation to wintering.

First, then, the fully-animated: Bees have been known to winter well in this condition, but usually it is disastrous, as in the case of Mr. Doolittle's bees during the winter of 1883-84. It is, in fact, an abnormal condition in this northern climate; hence, it has no bearing upon the subject in hand.

Second, the semi-hibernatious, or state of perfect quietude, *a la* Heddon; or of hibernation, *a la* Clarke. I think that all bee-keepers are agreed that this is the natural condition of bees during winter, or at any other time of the year when they are not working. Mr. Clarke does not *now* claim to have discovered that bees *really* hibernate. Hibernation is the word he uses to represent that death-like silence which all writers agree to be the natural state instinctively assumed by the bees when all the requirements are met for their perfect wintering, being an *effect* of wintering well, not the *cause*. There is no theory at all about this. Now, what is that state? In almost every way it resembles human sleep. The bees are very quiet, *i. e.* at rest; yet the slightest tap will generally awaken them, and put every bee on its guard, but if then left alone, they quickly become quiet again. I say they *generally* awaken with a slight tap; sometimes, of course, it would take what some would call a pretty hard knock, to arouse them. That is only the degree of lethargy. There are some people who sleep so lightly that the slightest noise will awaken them; others will not be disturbed by loud noises, and in some cases, hardly by being shaken.

What is hibernation? It is generally conceded to be a state of complete torpor, in which nearly all cold-blooded animals, and many warm-blooded ones pass the winter. As bees do not pass into this state during winter (and live), as shown by many writers, hibernation is manifestly an incorrect term by which to describe the quiescent state resembling hibernation. I think that it is an empty honor to be the first to drag a new term into our already voluminous vocabulary, which, however, does not mean what it is meant to express, and should therefore be dropped at once, on the principle of "calling things by their right names."

I will now pass to the third condition of bees, which is a state of *coma* or stupor produced by cold; not because it has anything to do with wintering bees, but because it resembles hibernation so much in every way; This is the condition mentioned by Mr. Wm. Malone, on page 779, of the BEE JOURNAL for 1884, and noticed more or less by all bee-keepers. Mr. Malone, in the above-mentioned article, describes it so fully that there is no use in going over the same ground again. However, I do not know that an exact limit may be placed on the time that bees would live in this state, nor the degree of cold at which death would supervene. It resembles in many ways the comatose state of the human species, only that with the latter it is seldom produced by cold, but only by cold, with bees, so far as yet known. When warmed again the bees are as sprightly as ever.

I imagine that I now hear Mr. Clarke exclaim, "That is just my theory. When the weather is cold the bees become torpid, but when a warm spell comes, they revive, and have a chance to partake of food." Not so fast! A chilled bee (or bees), requires the genial heat of the sun, or of a cluster of bees, or at least 45° Fahr., probably more, to revive it. How often does any one suppose that that temperature in the shade is reached during some winters? Probably not for months together. Therefore, during all ordinary winters, if the bees once entered this torpid condition, they would never revive.

Hence, I think that as "hibernation" is plainly shown to be a misnomer, as applied to bees, and useful only to confuse beginners, some other appellation (if any is needed) should be given to that quiescent state in which bees winter the best.

Tamworth, Ont.

For the American Bee Journal.

The Season of 1884.

A. A. FRADENBURG.

In the spring of 1884 I had 58 colonies of bees, and of those about one-half should properly be classed as nuclei. Apple bloom was abundant, and they secured some surplus from black locust. White clover promised well, and every colony was storing surplus when dry weather cut it off about as suddenly as though all the clover had been mowed down in a day, and the honey crop was ended. By June 20, I had 200 pounds of comb honey and 500 pounds of extracted.

From my 58 colonies I obtained only one natural swarm, and as I desired some increase, and reasoned that as the weather was dry in early summer, we might reasonably expect wet weather in the fall, so that the bees might store enough for winter, I began to divide them in July and August, and my plan was to take the queen with a little less than half of the brood, half of the bees, frames and stores for the new colony, and supply the old colony with a young queen or queen-cell, and fill both hives with empty combs or foundation. The bees just about "held their own" during July, but August and September were such dry months that they got scarcely a taste of anything, and I found it practically impossible to do any work with them, for one could hardly raise the lid of a hive but what robber bees would attack them.

In September I started my apple-evaporating business, and with apples constantly more or less exposed, and a cider mill in my yard, although it was kept closed as much as possible, and another open cider mill within half a mile. I will not attempt to estimate how many bees were killed. Late in November they were in what many would call a deplorable condition. Only a few colonies could be called good, and those that were divided had not increased any, but some had decreased. None had put any stores in the empty combs given them, nor had they drawn out their foundation; 3 I found queenless, and many had not 2 months' stores on hand. I doubled up some, and have to-day 63 colonies on the summer stands, and 29 in cluster or tenement hives, as described last June, without stores.

The important question is, how many of my bees will be alive on May 1, 1885? I have one very favorable condition, and that is, there is very little, and in most cases not any, pollen in the hives, as I do not think that any was gathered after corn gave its pollen; and as I fully proved last winter, to myself at least, that pollen is the cause of bee-diarrhea, I have no dread of that, unless it may be in a few of the best colonies that may have a little left from what was gathered during the early part of the season.

Port Washington, O.

For the American Bee Journal.

What the Times Demand.

DR. W. G. PHELPS.

It is currently reported in mercantile circles that we have "struck bottom," *i. e.*, reached the low-water mark of our depressed times. Be this false or true, one thing seems quite apparent, the price of honey is not likely to crawl up in the same proportion as other farm commodities. May I say *farm commodities*—because the product of the apiary is more properly classed under this head? The days when honey must be termed a luxury, are fast drawing to a close, and probably it is the very best thing that could have happened to bee-keepers. From swaddling clothes, our pursuit has emerged into the full statue of a vast industry. With this growth naturally comes the light emanating from the minds of hundreds of truth-searchers and bright investigators. Thus "the way-faring man though a fool," can scarcely err, if he diligently reads the bee-literature of the day.

Now, with all this, I repeat, comes the reduced profit on the honey production. Well, what are we going to do about it? To my mind, it resolves itself down to this: We must scale down the *expenses* in proportionate ratio. With the babyhood of bee-culture at an end, we must put aside all the pleasant but costly fancies, and let ourselves gracefully down to the wants alike only practical and necessary. Retrenchment must be our motto. Theoretically, perhaps the reader says. No, practically.

To illustrate this point I insist that we shall reduce our labor, implements and materials used in the apiary, down to the minimum. My bee-feeder, for instance, consists of an ordinary frame, with a sheet of tin or thin wood tacked to each side, and reaching within an inch of the top-bar. A

½-inch hole bored through the top-bar for the insertion of the funnel suffices to introduce the food. Should it leak, wax it. I have used such for 5 years. The only objection ever urged against it was that the bees might build comb from beneath the top-bar. So they did once or twice when used very early one spring in the center of the hive. A strip of tin 2 inches in width tacked the length of the top-bar, entirely prevents that. and a piece of wood laid upon the sweets within, prevents any bee from drowning. Such a feeder costs perhaps 20 cts. As fall feeding seems to be coming in fashion, and you feel like falling in line, make such a feeder ere buying a more costly one. Twice filled, it will put almost any colony on winter rations.

"Money saved is money earned." Why, may I ask again, the need of so much handling of comb honey? Where is the sharp Yankee who will devise a combined surplus comb-honey rack (or case), and shipping-package? Ah, my fellow bee-keepers, it must come to that! Every time a section of honey is handled, one cent is added to the cost, to say nothing of additional loss through broken combs and leaky honey.

We must also bring this expense down to the minimum. The bees can fit comb honey to such a case far neater than you, my fellow bee-keepers, and with no fear of loose joints and rattling sections enroute. "Separators are an objection," did you say? "Oh, they must go, which they ought to have done," as the boy says, "before they ever started." For 2 years I have used "nary one." What can be more complete than a surplus case quickly removed from a hive, a top and bottom cover of ½-inch stuff screwed on, and the whole shipped to market undisturbed? No, wild theory, in such a proposition either! Have I not put it in practical operation the past summer? True, I took the pains to add a neat label (with name and address), to the top of each section, and to arrange a glass in one side to show the combs to advantage; but that was scarcely a half hour's job with cases properly made.

For comb honey, the 2-story hive must go, too. Mark that! The "tiering-up" case system in 5 years more will have swept all before it. My 2-story hives have "laid on the shelf" (save for extracting), for 2 years or more, and my experience fully confirms that of Mr. Heddon and others, that the top half story, for it is really aught else, is to be the popular system of the future.

Against my opinions on the question of economy, no doubt the supply dealer will mentally rise to expostulate; but if he regards true prudence, he will go along with the current and cater to the forced economies of his customers. The palmy days of "war prices" for honey are gone, never to return; therefore let all accommodate themselves to present circumstances. Be prepared to sell comb honey at 12 and extracted at 7 cts. per lb., when that day arrives. It won't be lower than that, for the people will have it as they now have our delicious Maryland peaches which, placed within their reach, has created such a demand for the fruit, that our fruit-growers have well nigh contracted the "peach planting craze."

In conclusion, I may add to these mere hints, that there is one thing upon which we can scarce afford to study economy; to-wit. in subscribing for bee-papers. Go for them all if possible, as does the writer. If not possible, select at least two of the most enterprising, and read them carefully and thoughtfully. Just one idea gained from the Bee Journal during the past year, has been worth the subscription price of every paper that I take. Many the gleanings you can thus gather up from the flood of light constantly poured upon our captivating occupation. Money spent for such literature is as "bread cast upon the waters."

Galena, Md.

* * *

For the American Bee Journal.

A Discontented Bee.

WM. F. CLARKE.

A bee was heard to sigh: "Alas!
Life's hardly worth the living,
Matters have come to such a pass,
I'm sick and tired of giving—
In to that cruel tyrant, man,
Who thwarts and robs us all he can.

"Our combs were once fixed fast as fate,
With no unsteady motion;
Now they are made to agitate
At each bee-keeper's notion:
Lifted into the sun and air,
Or whirled in a tin cylinder.

"We used to have an easy time,
All through the pleasant summer;
While willow, maple, clover, lime,
Welcomed each happy comer:
Now we are driven hard and fast,
Long as the honey harvests last.

"Our stores of honey and bee-bread
Are stolen from our cupboards,
Cheap sugar fed to us instead—
Our brood, like Mother Hubbard's
Unlucky dog without a bone,
Of natural food have left them 'none.'

"We're mured in cellars, dumped in pits,
Or shut in murky houses,
Where not a ray of sunlight flits,
And there are no carouses
Such as there used to be of old,
When a warm day dispelled the cold.

"Last, but not least, our combs are turned
Bottom-side-up, regardless
Of that tip-tilting we have learned
As nature's pupils artless:
Our young must cling fast to their beds
To keep from falling on their heads!

"It's time a stop were put to these
Unending innovations,
With loss of comfort and of ease,
I've also lost my patience:
If matters do not quickly mend,
I'll strike, and hoist my latter end!

"Beware, beware, O luckless man!
And cease to play tormentor,
Or we will punish, as we can,
Each painful nervous center.
'Live and let live' must be the law,
Or we'll quit work and daggers draw."

Speedside, Ont.—

* * *

☞ The Progressive Bee-Keepers' Association of Western Illinois will meet in Bushnell, Ills., on Thursday, May 7, 1885. Let every bee-keeper who can, be present and enjoy the meeting. J. G. Norton, *Sec.*

☞ The winter meeting of the Bay of Quinte Bee-Keepers' Association will be held at the City Hall, Belleville, Ont., Feb. 26, 1885, at 1 p. m.

For the American Bee Journal.

"After Swarms," Are they Profitable?

G. W. DEMAREE.

Doubtless much depends on locality, honey resources, etc., as to whether "after swarms" can be made profitable, even when increase is desirable. In a location like my own, "after-swarms" have always cost me, in the way of foundation, winter stores, etc., as much as they are worth. I think, however, if we want to increase our stock, and are willing to pay for them, we may as well do it in this way.

I commenced at this place with just one colony of Italian bees, and by allowing but one prime swarm, as a general thing, I built up an apiary of 50 colonies, and made them pay a profit on the investment all the time. I found out when it was too late to profit by it, that it would have been more profitable for me to have got along slower, by accepting none but first or prime swarms, and preventing all after-swarms.

When my apiary was built up to 50 colonies, I began to see the necessity of suppressing increase, and I began to test all the plans given to the public by experienced bee-masters.

One season I "cut out queen-cells" till I was positively sick of the job, and got an unusual lot of inferior queens as the result. Next I tried giving the parent colony a mature queen-cell, after removing the cells which had caused the swarm. Other cells were started immediately, and the after-swarm would come a little in advance of the natural way; that is all.

I next commenced to "weaken" the swarming colonies by removing frames of brood from time to time, and supplying their places with frames filled with foundation: This suppressed the swarming fever, and "suppressed" my honey crop also, and I dropped it. Other plans were tried with unsatisfactory results, till along came the "Heddon method of preventing after-swarms." I took to it quite naturally, as a drowning man will catch at straws. After trying it, I found that in my location, it would give about the following results: One colony in ten will cast a swarm in the usual way, except that the size of the swarm will be diminished. One-fifth of the swarms will swarm again, by reason of the relay of bees from the parent hive. One colony in ten will "lay out" and sulk away the best of the honey season, while nearly all of the parent colonies are too nearly exhausted to do any good, in the way of surplus honey. The rest of the swarms will "work like a charm." And the work necessary to perform the divers manipulations to carry out the schedule, is anything but "charming."

The "Heddon plan" was laid aside (with the rest of the impracticable plans). By this time my apiary exceeded a hundred colonies, and I began to get desperate. When we have as much of a thing as we want, increase is a burden. If my judgment is not seriously at fault, not one honey producer in ten can find sale for his surplus bees at a price that will cover the cost of hives, foundation and winter stores; and as long as this state of things exists, some reliable method to control increase will be a desideratum.

After trying many experiments, I believe the cheapest and most effective way of preventing after-swarms, is to pinch the cells which cause the swarming, immediately after the swarm issues, and turn loose among the bees a virgin queen from 1 to 4 days old. This plan is not "new." It is only the application of a little sound philosophy. Bees never start queen-cells in the presence of a virgin queen over *one day old*, if they have accepted her. It is this starting of cells that does all the mischief.

To prevent swarming altogether, my new system of dividing the colony in two divisions, employing the queenless division to produce the surplus honey, and the parent division to produce the working force, re-uniting them as soon as the swarming season is mainly past, will answer the purpose to perfection. But more time is needed to ascertain if the plan is altogether practicable.

Christiansburg, ♁ Ky.

For the American Bee Journal.

Floating Apiaries of the Future.

U. E. DODGE.

Bee-keeping is fast becoming an important industry in the United States and Canada, and the oportunities for honey production and the employment of idle hands are almost unlimited. When we look over the history of bee-keeping for the last quarter of a century and note the growth, prosperity and improvement of this science, may we not with some degree of reason speculate upon its future developments? and whilst the busy workers are snugly housed in their winter quarters beneath our comfortable apartments, and old Boreas blows his icy breath around every corner without, may we not day-dream upon the further advancement of this industry?

Although my bee-keeping scheme may be like "the hibernation theory" and the wintering problem, "without form and void," and darkness dwells upon my beclouded brain, yet thoughts occasionally flit through my mind with visions of the not-far-distant future. As I sit musing, the posibilities of bee-culture are constantly passing before me, and as the panorama passes I see the mighty Mississippi whose source penetrates the frigid regions of the North and whose mouth pours her floods into the tropical seas of the South; whose tributaries reach out and drain a large portion of a continent; and upon whose borders are an endless variety of soil and changing climate, skirting lofty mountains, rich and fertile plains, and extended alluvial bottoms, producing an unbounded variety of honey-producing flowers at almost all seasons of the year upon some portion of its borders. As I look with delight upon this picture, I see steamers of peculiar pattern floating upon her silvery bosom, laden with thousands and tens of thousands of busy workers whose instinct teaches them to sip the luscious nectar wherever honey-producing flowers abound, whether upon the lofty mountain side or deep alluvial valley; and I see bright, intelligent young men as their keepers, whose life-work is the pursuit of apiculture in this novel and peculiar manner.

This may be the outgrowth of an enthusiastic brain, but is it not susceptible of practical test? Let us for a moment scan the picture in all its bearings; let us see whether we have any just grounds for such a grand bee-keeping enterprise! Are there not flowers upon every hillside, plain and valley, bordering upon this great net-work of streams? Are there not a great variety of climates upon its borders, susceptible of being reached by steam navigation? Are there not thousands of sheltered nooks all along those great channels of commerce, where the apiarist may land his industrious freight and move his floating home to secure the secretions of myriads of honey-producing flowers? Are there not hundreds of locations in the "Sunny South," where the wintering problem dwindles almost into insignificance, that may be reached by these floating apiaries? If so, wherein is the difficulty? All that is required is mechanical skill to construct a steamer peculiarly adapted to the purpose, that will carry as many colonies as the proprietor wishes to handle, with one, two, or more helpers, with capacity enough for a dwelling, work-shop, etc., with facilities for rapid and easy loading and unloading hives, storage, etc.

Thus equipped, in the fall, let the apiarist put the bees on board, get up steam and steer for Southern climes, until a favored locality is reached—say in Louisiana, Mississippi or Texas, bordering upon the Mississippi or its tributaries. Here let him remain until the season of flowers in the spring, landing his bees whilst remaining in this location or until the early honey-flow of the locality is nearly past, then put his bees on board, get up steam and steer for more Northern climes and secure another honey-flow, and so on, until the Northern limit is reached, thereby securing an unlimited number of honey-flows during the season, with facilities for comb-honey and extracting on board, securing the honey from each flow in good marketable shape, returning again in the fall to his old or some other good wintering ground, to again construct hives, fixtures, etc., for another season's campaign.

With the power he has at hand, at all times, in a propelling engine, and repeating the work as the seasons roll round, for a lifetime, it makes but little difference where he may be, if his bees have an abundance of honey-producing flowers. His boat is his home, workshop, honey-house and vehicle for marketing his honey; in fact he is frequently in the market as he migrates, or passes the great cities situated upon the banks of these great water-courses. He soon becomes known as a honey-producer, and sales of honey are made in advance of arrival in the great marts of trade.

But I am building this castle too high, and this article is too long. Some vigorous, healthy and practical young man may start an enterprise of this character and push it to its utmost capacity. I will predict (although I may not live to see it realized,) that a quarter of a century hence will find hundreds of apiaries floating upon our Western rivers, from the far North to their extreme regions in the "Sunny South."

Fredonia, ♀ N. Y.

[This scheme is neither *new* nor practical. Floating apiaries have for centuries been employed in Egypt, Germany, etc. Some ten years ago Mr. Perrine practiced the scheme on the Mississippi, on a large scale, but after making large investments in steam-barges, hives, bees, etc., he made an utter failure of it, and lost some $12,000 in the venture. The chief barrier being immense loss of bees from continual disturbance, change of location, high winds, intervening bluffs and consequent hiding of the barge, close proximity of hives on the boat, etc. No one should think of trying such a scheme unless he has $20,000 to throw away—and still have enough left for the needs of his family.—Ed.]

Read at the Michigan Convention.

The Merits of the Carniolan Bees.

A. J. KING.

Next to *Apis dorsata*, less is known of the Carniolan race of bees, practically, by American apiarists, than that of any other which has been supposed to possess merit above our common black and brown bees. Most of us have seen specimens of different importations, besides some bred in this country, but we believe the time to speak with positiveness regarding the various essentials which go to make up the character of the "coming bee" and to ascribe the majority of such essentials to any one particular race, has not yet arrived.

The early impressions, still fresh in the minds of American apiarists, regarding the supposed merits of the Cyprian race have not been justified after thorough trial by persons competent to judge of their merits. The Syrians and Holy Land bees, although superior in a marked degree to the Cyprians, do not yet bear off the palm when compared with our better known and ever-to-be-praised Italians; and the impression seems to be growing among our best informed bee-keepers, that a cross between the Syrians and Italians—breeding the queens of the former to the drones of the latter variety—produces a strain of bees combining in one a greater number of desirable traits than either of the yellow races separately considered.

The rapid change in color and, in a degree, in the physical conformation of all foreign races of bees in our climate, is known to all breeders, and accounts, in a measure, for the difference observed among writers in describing the new races; the *mental* characteristics or dispositions, however, do not seem to change in a like degree, if at all; hence, the value of continuous experiments in the hope of attaining fixed traits of excellence is not diminished.

The difference in size of the individual bees of the different varieties has been used by some writers to advance the interests of their favorites, but when we observe the difference in size of the bees in different colonies of the same race, together with the fact that a square inch of the combs of all the races now cultivated contains precisely the same number of cells, we are led to conclude that this difference is more fanciful than real; yet we think that there is a slight difference in length of body in favor of the Syrian workers and less in the other foreign races, over our common blacks.

All are familiar with the close resemblance in appearance between the foreign yellow races and of their marked dissimilarity both in appearance and habits, to our common bees; yet the Carniolan race might be easily mistaken, by the casual observer, for our own brown bees, while in their habits they differ even more widely from them than do the yellow races. A close observer would, however, instantly detect differences so constant and marked as to never be in doubt for one moment of the identity of the Carniolans.

Keeping our bees mostly for breeding purposes, and often dividing and performing the other various manipulations necessary in carrying on this feature of the business, we have not had the opportunity of testing them in the production of comb and extracted honey as we would desire; but so far as we have thus tested them, they have far exceeded our most sanguine expectations, and this feeling of satisfaction is shared in by all, without exception, to whom we have sent them. Prof. Hasbrouck, Mr. J. M. Shuck and some others to whom we have sent bees of all the races enumerated in this essay, except *Apis dorsata*, give to the Carniolans their decided preferences.

We have never had bees stand cold and exposure better, or to recuperate faster under adverse circumstances.

Mr. Anthony Grætzman, a native of Austria and a bee-keeper on modern principles, of many years' experience, in a letter just received, speaks thus of the Carniolans: "Upon a series of observations and demonstrations with the different races of bees of the east and south of Europe, I give the highest preference to the Carniolan. As to gentleness, activity, prolificness and their ability to withstand climatic changes in cold regions they are of very marked superiority. As honey-gatherers they are fond of all the clovers, buckwheat, linden and all other sources of honey visited by the Italians. Their fault is in swarming too abundantly."

Of their gentleness, Mr. Benton writes: "There is a race of bees to be found in its purity only in one of the central provinces of Austria, which is so gentle as to cast the gentleness of the gentlest Italians all 'into the shade.' They are the Carniolans from among the rugged Carniolan or Carnic Alps. These bees are larger than the Italians, very prolific and industrious, gray in color, and so good-natured that the veriest novice in bee-culture can handle them without a bee-veil, gloves or smoke. Having recently come from a town through Carniola, Austria, where I have been collecting a lot of colonies of this race, and where I have examined and handled hundreds of hives filled to overflowing with these peaceful workers, I have had every opportunity needed to convince myself of their thorough gentleness."

The editor of the *Buletin d' Apiculteur*, South Switzerland, who has had many years' experience says:

"I have observed in the mountains a very marked superiority on the part of the Carniolans; they are decidedly hardier than all the others, above all than the Italians, which stand only poorly the climate of elevated regions. I have seen the Carniolans working on red clover, whilst the common bees were neglecting it. By increasing the size of the hives reasonably, adding frames already built out, and giving them the necessary ventilation, swarming can be prevented with this race as with others."

He calls attention to the fact that among those who have given their experience with Carniolans, the owners of hives having the combs running from front to rear, had succeeded best in preventing swarms.

New York.

For the American Bee Journal.

Comb Foundation in the Brood-Nest.

8—W. Z. HUTCHINSON, (68—94).

Had not Mr. Bates, on page 54, indicated by figures after his name how many colonies he had, I should have put him down as a "beginner." But few begin the season with 120 colonies, without learning that time can be more profitably used than in opening a hive and securing a frame of brood for each swarm, and then taking off the honey-boxes and opening the hive in 4 or 5 days and inserting a frame of foundation, "and so on, about once a week, till the bees have all the frames they need." When I hive a swarm of bees I want that that shall be the end of it—no opening of hives every 4 or 5 days, "and so on." There seems to be an idea prevalent that because we use movable-comb hives the combs *must* be moved. In the production of comb honey there is seldom any necessity of opening the hives, *i. e.*, the brood department, from one years' end to another. If everything always went well, *i. e.*, colonies never became queenless, or something of the sort, box-hives would answer every purpose in the production of comb honey.

He speaks of putting two or three brood-frames (I presume he means *wide* frames) filled with sections, into the brood department of the hive containing the newly hived swarm. I do not have my comb honey, and in fact, but little honey of any kind stored in the brood department. This plan of having honey stored in the brood department has seen its best days, and will rest in the same grave with the wide-frame system.

He lays down a plan of management which he thinks would not only be ahead of empty frames, but ahead of hiving swarms upon a full set of frames of foundation; aside from saying that it is complicated, it might be said that many bee-keepers *think* that it is profitable to use foundation in all places, but how many *know?*

Mr. B.'s system of hiving swarms upon 5 or 6 combs of brood and honey taken from the old hive, would be very unsatisfactory in this locality. I want the honey-gatherers where the honey-boxes are, during the honey harvest. But few of the bees that hatch from the combs of brood taken from the old hive would be old enough to gather honey before the white honey harvest would be past. This objection would not apply to early swarms, but see how complicated the method! Just compare it with the Heddon method, in which it is not necessary to even open a hive, and all the honey-gatherers are induced to labor in the hive where the sections are; and should the honey harvest soon end, their work is in such a shape that it will bring the highest market price.

He does not think it necessary to use the extractor to give the queen room to lay; neither do I. Make the brood department of such size that the queen can keep it full of brood; and, if necessary, keep her in it with a queen-excluding honey-board, and let the honey be stored in the surplus apartment.

I have not the least doubt but what foundation has come to stay, but my experiments of last year appear to indicate that it is possible to have "too much of a good thing." If any one is inclined to experiment upon this subject, another season, please allow me to suggest the use of a hive in which the brood department is not large enough for the brood-nest and surplus too.

Rogersville, ♂ Mich.

☞ The New Jersey and Eastern Bee-Keepers' Association will hold their next annual convention at Cooper Union, in New York City, beginning on Wednesday, March 11, 1885, and to continue two days or more. The committee promise a good programme, and extend a cordial invitation to all. W. B. TREADWELL, Ass't. Sec.

☞ The Willamette Valley Bee-Keepers' Association will hold its second meeting at La Fayette, Oregon, on the third Tuesday in June, 1885. All who are interested are invited to attend.

E. J. HADLEY, *Sec.*

For the American Bee Journal.

My Experience with Bee-Diarrhea.

L. L. TRIEM, (105—170).

When in conversation with Dr. Jesse Oren, a few days ago, I asked him this question: "Do your bees show any signs of bee-diarrhea?" He answered: "I do not know. If I thought they had it, I should not go to see them, for I should not want to know it until the very last." Now, when we see with what dread such a bee-keeper as Dr. Oren speaks of bee-diarrhea, is it any wonder if beginners should also have fears? I know of no other successful bee-keeper who has been able to winter bees better than Dr. Oren—I mean with less disease and loss.

On Jan. 1, 1885, I carefully examined all of my 170 colonies of bees which are in one cellar, and 2 colonies showed just a few spots on the fronts of their hives. I will explain how the cellar is arranged, so as to give the reader a better idea of the conditions.

It has a sub-earth ventilator 208 feet long, running down an 8-foot grade, and is made of 6-inch tiling. This supplies fresh air; and for an escape I have an outlet of common, 6-inch stove-pipe connected with the cook-stove pipe, and entering it 2 feet above the stove. The pipe reaches within 10 inches of the cellar floor. The bees were carried into this cellar on Nov. 19 and 20, 1884, and tiered up in rows, part being 2 hives high and the most of them 5 hives high. Only burlap covers were put on top of the frames, and 6-inch strips of boards were placed between each tier of hives. The temperature has been 46° above zero for 30 days, and to-day, it is at 42° above.

Now, to return to the 2 affected colonies:

On Jan. 30, I examined them again and found only the same two affected. The whole fronts of the hives were covered with the excrements. The bees were breeding and restless, and would fly as soon as the light appeared. I removed the hives above them as quietly as possible, and took down both of the ones containing the affected colonies, and found that both would have starved in less than 10 days. The hives were crowded with bees, young and old. I next removed the burlap covers, and as almost all of my hives have feeders in them, I found that these two were ready to receive one quart of sugar syrup.

I made the syrup of 10 lbs. of granulated sugar, 3 lbs. of water, and a piece of tartaric acid the size of a small hickory nut, *a la* Heddon, and fed them, until each had 10 lbs. of it. To-day these two colonies are as tightly clustered and as quiet as any in the cellar. Time will tell whether they will live, but if they die I have lost only the time and have learned a lesson.

In the BEE JOURNAL of Jan. 28, 1885, Mr. A. J. Norris in his article entitled "Pollen First Cause of Winter Loss," touches a very important point, viz: "Removing the means of brood-rearing," and continues: "But there is one thing of which I do not feel assured, *i. e.*, if the bees are robbed of the necessaries with which to rear their young, will the old bees live long enough in the spring to build up strong?" etc.

I agree here with him, and as a remedy, say, feed sugar syrup in October until all pollen is covered over and sealed up, and as the bees consume this sugar stores first, no pollen will be exposed until March. As there is room enough for brood-rearing to commence, not much disease will be the consequence.

I cannot believe that a colony which does not breed until April can place its record beside one which bred and was full of young bees in March. I am a strong advocate of feeding sugar for winter stores, and I believe that the pollen theory is correct; only tell us how we can leave just a little in the hive and in such a shape as to do no harm.

La Porte City, Iowa, Feb. 2, 1885.

For the American Bee Journal.

Honey-Dew and Worker-Larvæ.

C. THEILMANN.

On page 41, Prof. A. J. Cook says: "It will take years to persuade all bee-keepers that the so-called honey-dew does not fall like the gentle rain from heaven, yet that it never so falls, is very certain."

I am one of those who cannot be persuaded so easily on the honey-dew question. From my boyhood until now, it has been natural for me to study and investigate Nature's curiosities, and from what I have observed about honey-dew the Prof. or any other person cannot convince me that all honey-dew is the secretion of plant, bark, or other lice, unless they can prove to me that these lice can fly and secrete while on the wing. Often have I seen honey-dew away from timber or trees, from 80 to 160 rods, on the prairie and tame grasses and vegetables, and nearly all that I have tested had, contrary to the louse honey, a pleasant taste, and was quite light in color. Will the Professor please explain how that honey-dew got there? If not "like a gentle rain from heaven," it surely did not come from below, as it was always on the tops of the leaves.

Further on, the Professor says: "That bees can change worker larvæ to those of drones, is entirely beyond the possibilities, even of the very skillful workers." I do not know that bees can change worker larvæ into drones, but I do know that they can make drones from what are called worker eggs.

In an article on page 594 in the BEE JOURNAL for 1883, I described my experiences by which I am convinced that bees do make drones from worker eggs; for after the swarm referred to deserted the hive, I very closely examined the piece of comb in which the eggs were deposited, and the queen was a perfect one; no cell was missed on either side of the comb, and it was filled with eggs almost to its lower end, where the cells were not more than $\frac{1}{8}$ of an inch deep; none of the cells were built out the full length, and therefore I could see the eggs very plainly. There was not a miss nor two or more eggs in a cell within the whole circle. Now, then, is it natural for a queen, right after swarming, to lay drone eggs among worker eggs in the first piece of worker comb which is built in its new home? This would be a rule of which I have not yet heard in the 17 years of my bee-keeping. Even the poorest queens that I ever had (such as would rather lay drone eggs than worker eggs), laid all worker eggs for at least 4 or 5 of their first days in their new homes.

It is entirely beyond any doubt that the above-described eggs were not all worker, and would surely have hatched out worker bees, had the swarm, which I hived on the piece of comb, not lost its queen while swarming, and had not its instinct led it to make a queen, drones and workers from those eggs to preserve its existence. Laying workers in that colony were excluded. While they had nearly filled the hive with drone-comb, no eggs or brood of any kind could be seen, when the young queen commenced to lay.

If I understand Prof. Cook, he claims that drone-eggs have no sperm. It seems to me that if the drone-eggs of a perfect queen could be examined or dissected "correctly," that a sperm would be found. It is entirely beyond the possibilities for a black queen to produce yellow drones, if she is not fertilized by a yellow drone. These facts alone prove the fallacy of the sperm theory.

Thielmanton, Minn.

For the American Bee Journal.

How Does He Know?

DR. D. C. SPENCER.

In these days when the apiarist seems more than ever to be endeavoring to get at facts, sifting them as best he may, from much of chaff and theory, as he carefully scans such an apparently able article as that on page 85, he feels like asking, "How does he *know?*" Has he *known* "what bees do in winter?" Has he carefully and repeatedly noted the action of the bees in their winter cluster during severe cold weather, which being subjected to a low degree of temperature—say 20° to 30° below zero—as they "take a full meal of honey and come outside, the next inside doing the same, and so on until the outside ones are crowded in, warmed and get their fill, and come outside in turn to cluster over the rest?"

Sometimes the writer of the above tells us what he has "thought" and and what he "thinks;" now if he will tell us what he *knows* about the subject in hand, and *how* he knows it, *then*, if the evidence is sufficient and conclusive, we may set down such and such points as facts, but not until then.

Augusta, Wis.

Local Convention Directory.

Time and place of Meeting.

1885.

Mar. 3.—Southern Wisconsin, at Janesville, Wis.
J. T. Pomeroy, Sec., Edgerton, Wis.

Mar. 11.—New Jersey and Eastern, at N. Y. City.
W. B. Treadwell, Sec., 16 Thomas St., New York.

April 3.—N. E. Kansas, at Hiawatha, Kans.
L. C. Clark, Sec., Granada, Kans.

Apr. 9, 10.—Western, at St. Joseph, Mo.
C. M. Crandall, Sec., Independence, Mo.

Apr. 28.—DesMoines County, at Burlington, Iowa.
Jno. Nau, Sec., Middleton, Iowa.

May 4.—Linwood, Wis., at Rock Elm Centre, Wis.
B. Thomson, Sec., Waverly, Wis.

May 7.—Progressive, at Bushnell, Ills.
J. G. Norton, Sec., Macomb, Ills.

May 28.—N. Mich. Picnic, near McBride, Mich.
F. A. Palmer, Sec., McBride, Mich.

June 19.—Willamette Valley, at La Fayette, Oreg.
E. J, Hadley, Sec.

Dec. 8—10.—Michigan State, at Detroit, Mich.
H. D. Cutting, Sec., Clinton, Mich.

☞ In order to have this table complete, Secretaries are requested to forward full particulars of time and place of future meetings.—Ed.

SELECTIONS FROM OUR LETTER BOX

Mass Convention.—H. D. Cutting, Clinton, Mich., writes as follows concerning the meeting to be held at Detroit in 1886:

It is an excellent suggestion that the "North Western" hold their meeting at the same time and place as the National Society. It will be a large meeting and ample accommodations will be furnished at greatly reduced rates. We can get reduced rates on the railroads so that all can come and have a grand, good meeting.

Favorable Winter for Bees.—G. W. Hurwood, Waco, ⊙ Tex., on Feb. 9, 1885, says:

Yesterday, after a warm spell of more than a week during which my 50 colonies of bees had daily flights, they were busy on the prairies all day, and returned laden with pollen of a very bright color. The flower from which it is gathered is a tiny white blossom of such insignificant size that it must be sought for to be found, but it is evidently very rich in pollen. In this latitude the season opens about the middle of February with great changes in the weather, until the end of March. The present winter has been a favorable one for bees in this section.

Extremely Cold.—F. M. Taintor, Elm Grove,∽Mass., on Feb. 5, 1885, writes thus:

I hope that bee-keepers who are wintering their bees on the summer stands, are in a warmer climate than this. We had a very warm fall, but all through January it has been extremely cold, the thermometer ranging below zero nearly all of the time, and several times it was 20° below. My bees are all in the cellar. I now employ artificial heat in the cellar, but before I used this method of heating it, I lost a great many colonies, and since I have used it, I have not lost a colony. I think that dry, pure air and a proper and even temperature, are two prime essentials in successful wintering. My bees are in fine condition.

Report, from J. W. Sturwold, Haymond,○+ Ind., on Feb. 17, 1885:

My bees had a flight yesterday, the first since Feb. 3. Only one colony has died, and that was a small, late swarm; the rest are in good condition, although the winter has been a severe one, the mercury being between zero and 20° below. I use the Heddon hive and one-half of them are packed *a la* Heddon, the rest being protected only on top. All are on the summer stands. I have never wintered my bees in the cellar, although I have a good one, and I have never lost but one or two colonies since 1879-80. I never take any honey out of the brood-chamber, and I attribute my success to that; for I believe that if we leave the brood-chamber to them, to prepare for themselves, there is not much danger of bee-diarrhea appearing.

Good.—Prof. A. J. Cook writes as follows concerning the next meeting of the National Society:

I am glad that the date of the next meeting of the National Society is given and criticisms asked for. The date is all right, unless it keeps away our Southern bee-keepers. We want them very much, especially Judge Andrews, Dr. Blanton, Dr. Brown and Paul Viallon. I am thankful for the suggestion as to the "Northwestern" also meeting at Detroit. I hope it will be done.

Report, from John Monroe, South Kent,∽Conn., on Feb. 13, 1885:

The season of 1884 was a very good one for this locality. I commenced in the spring with 6 colonies of bees, 3 blacks and 3 Italians, increased them to 11 colonies, and took 526 lbs. from the old colonies. I am wintering them on the summer stands, and all are in good condition. I have kept bees for 3 years in the movable-frame hives, and I have always wintered my bees on the summer stands, never having lost but one colony, and that died from starvation. I do not pay any attention to pollen, but give them plenty of honey and they come out all right.

Foul Brood, etc.—J. A. Noble, Norval, Ont., on Feb. 16, 1885, writes as follows:

Last spring I started with 3 colonies and increased them to 6. I have reason to believe that foul brood is in my apiary, for early in the spring there was lots of dead brood. I asked an old bee-keeper if he knew the cause for it, and he thought that it was chilled brood; but from what I have read, I think that it was foul brood; for when I opened the cells they emitted a bad odor, in fact I could smell it when passing the hives. I kept on spraying the combs and bees once a week all summer, with salicylic acid. It may have checked it, but it did not cure them, as it continued all last fall. Can any one prescribe a remedy? I would rather kill them all than have the trouble I had last summer. I made 2 small nuclei on June 28, 1884, and gave each of them an Italian queen-cell. The cells hatched out on July 2, and I saw one queen leave the hive on July 7, which returned in 20 minutes, having been mated in that time. I looked at the other one and fancied that I saw the queen fly from the front of the hive, but I was not sure, so I waited to see her come back, which she did in 15 minutes, and was mated all right. On July 11, both queens were laying all right. Is there anything strange in the above? I never expected to see a queen go out on her wedding trip. I mentioned it to two bee-keepers and they told me that they had never seen a virgin queen leave the hive to be mated. I obtained a virgin Cyprian queen and introduced her to a small nuclei on Aug. 1, and on Aug. 6 she left the hive to be mated; she returned in 10 minutes, not mated; so I sat on the top of the hive to watch her come out again, but by some means or other I missed her, as I saw her come in in about ¾ of an hour from the time she went out at first. I noted all that happened to my bees last season, thinking it might be useful to some. I am an invalid and cannot work much, so I have lots of time to watch my bees. I had 200 lbs. of honey. I do not know how the bees are wintering here, but mine are on the summer stands packed in sawdust and chaff. We have had a very cold winter; on last Thursday morning, the mercury was about 30° below zero.

[Try phenol, as recommended by Mr. Frank Cheshire.—Ed.]

Wintering Bees.—O. B. Barrows, Marshalltown, Iowa, on Feb. 17, 1885, writes as follows concerning his bee-cellar:

My cellar has about 700 square feet of surface on its bottom and is about 8 feet deep, 7 feet under-ground. It has 5 windows 12x16x24 inches. I never bank it up nor darken the windows. It contains 66 colonies of bees. I remove the blocks from the fronts of the hives which are facing the cellar wall, and only a few inches away from it, so that the light from the windows cannot shine directly into the hives. There is a chimney 35 feet high extending from the cellar bottom to the top of the house. This chimney has a 6-inch hole in it which is always open, and a draft of air is constantly passing through it. I have wintered my bees successfully in this way for 8 or 10 years.

☞ The Southern Wisconsin Bee-Keepers' Association will hold its second annual meeting at the usual place in Janesville, on the first Tuesday in March 1885. All bee-keepers are cordially invited to attend.

J. T. Pomeroy, *Sec.*
C. O. Shannon, *Pres.*

Special Notices.

☞ We often get a number of notices and advertisements on Mondays, intended for the next BEE JOURNAL. As we close the forms on Saturdays, all such notices *must be here* on Saturday morning, or cannot appear until the following week.

☞ Our rates for two or more copies of the book, "Bees and Honey," may be found on the Book List on the second page of this paper. Also wholesale rates on all books where they are purchased "to sell again."

FRUIT GROWING.—We have received a copy of an illustrated pamphlet of 64 pages, entitled "How to Propagate and Grow Fruit," by Chas. A. Green, editor of the *Fruit Grower*, Rochester, N. Y. Price 50 cents. To any one sending us a new subscriber for the Weekly or 4 for the Monthly, besides his renewal for either edition, we will present a copy of this book.

☞ We want one number each of the JOURNAL of Aug. 1866, Feb. 1867. Any one having them to spare will please send us a Postal card. We will take the first that offer them, and pay 25 cents each for the 2 numbers.

☞ To Canadian subscribers let us say that we have made arrangements so that we can supply the *Farmer's Advocate* of London, Ont., and the Monthly BEE JOURNAL for one year at $1.25 for the two.

☞ The long winter evenings will be well occupied by reading bee literature. When renewing your subscription, it will be well to get some good bee-books. See our list of books on the second page and select what you need.

☞ Do not forget to send for a Binder in which to file your JOURNAL and thus have the full benefit of it during the whole year.

☞ Those who have the Monthly for 1883 or 1884 will be pleased to learn that we have a few Binders still left for those years—Price 50 cents each. Send for them before all are gone, for we do not intend to get any more made.

Create a Local Honey Market.

Now is the time to create Honey Markets in every village, town and city. Wide-awake honey producers should get the Leaflets "Why eat Honey" (only 50 cents per 100), or else the pamphlets on "Honey as Food and Medicine," and scatter them plentifully all over the territory they can supply with honey, and the result will be a *demand* that will readily take all of their crops at remunerative prices. The prices for "Honey as Food and Medicine" are as follows:

Single copy **5** cts.; per doz., **40** cts.; per hundred, **$2.50**. **500** will be sent postpaid for **$10.00**; or **1000** for **$15.00**. On orders of **100** or more, we will print, if desired, on the cover-page, "Presented by," etc., (giving the name and address of the bee-keeper who scatters them). This alone will pay him for all his trouble and expense—enabling him to dispose of his honey at home, at a good profit.

☞ To give away a copy of "Honey as Food and Medicine" *to every one who buys a package of honey*, will sell almost any quantity of it.

Apiary Register—New Edition.

All who intend to be systematic in their work in the apiary, should get a copy and commence to use it. The prices will hereafter be as follows:

For 50 colonies	(120 pages)	$1 00
" 100 colonies	(220 pages)	1 25
" 200 colonies	(420 pages)	1 50

The larger ones can be used for a few colonies, give room for an increase of numbers, and still keep the record all together in one book, and are therefore the most desirable ones.

Farmer's Account Book.

This valuable book contains 166 pages, is nicely printed on writing paper, ruled and bound, and the price is $3.00. We will club it and the Weekly BEE JOURNAL for a year for $4.00. If you have already sent us $2.00 for the Weekly BEE JOURNAL for a year, we will send the Book for another $2.00, making $4.00 in all. If you want it sent by mail, add 20 cents for postage.

We can supply these books at the publisher's price, or will make a **present** of one copy for every club of TEN subscribers to the Weekly BEE JOURNAL for one year, with $20. Four subscribers to the Monthly will count the same as one for the Weekly.

Now is the time to get up Clubs. Who will work for a copy of this valuable book.

Sample Copies of the BEE JOURNAL will be sent FREE upon application. Any one intending to get up a club can have sample copies sent to the persons they desire to interview, by sending the names to this office.

CLUBBING LIST.

We will supply the **American Bee Journal** one year, and any of the following Books, at the prices quoted in the last column of figures. The first column gives the regular price of both. All postage prepaid.

	Price of both.	*Club*
The Weekly Bee Journal,	$2 00..	
and Cook's Manual, latest edition	3 25..	3 00
Bees and Honey (T.G.Newman) cloth	3 00..	2 75
Bees and Honey (paper covers)	2 75..	2 50
Binder for Weekly Bee Journal	2 75..	2 50
Apiary Register for 100 colonies	3 25..	3 00
Dzierzon's New Bee Book (cloth)	4 00..	3 00
Dzierzon's New Book (paper covers)	3 50..	2 75
Quinby's New Bee-Keeping.	3 50..	3 25
Langstroth's Standard Work	4 00..	3 75
Root's A B C of Bee Culture (cloth)	3 25..	3 10
Alley's Queen Rearing	3 00..	2 75
The Weekly Bee Journal one year		
and Gleanings in Bee-Culture (A.I.Root)	3 00..	2 75
Bee-Keepers' Magazine (A.J.King).	3 00..	2 75
Bee-Keepers' Guide (A.G.Hill)	2 50..	2 35
Kansas Bee-Keeper	3 00..	2 75
The Apiculturist, (Silas M. Locke)	3 00..	2 90
The 6 above-named papers	6 50..	6 00

THOMAS G. NEWMAN,
925 West Madison Street., **Chicago, Ill.**

☞ For two subscribers for the Weekly BEE JOURNAL (or 8 for the Monthly) for one year, we will present a Pocket Dictionary, and send it by mail postpaid.

Advertisements.

APIARIAN SUPPLIES---1885.

ALL-IN-ONE-PIECE SECTIONS, Langstroth Hives, Section Cases, Shipping Crates, Brood Frames, Foundation, Smokers, and all other Supplies needed in the apiary. **ITALIAN BEES & QUEENS** in season. Send for Price-List. Address,
L. L. TRIEM, La Porte City, Iowa.

JOHN HERR & CO., Beaver Dam, Dodge Co., Wis., Manufacturers of
HIVES AND SECTIONS.
7A2t 3B2t ☞ **Price List Free.**

W. Z. HUTCHINSON,
Rogersville, Genesee Co., Mich.,
can furnish just as neat, white, smooth and perfect, dovetailed, white poplar sections as there are made. Send for sample and prices.
4Dtf

Dadant's Foundation Factory, wholesale and retail. See Advertisement in another column.

BEE-KEEPERS' GUIDE;
Or, MANUAL OF THE APIARY.
12.000 SOLD SINCE 1876.
13th Thousand Just Out!
10th Thousand Sold in Just Four Months!
3,000 Sold Since May, 1883.

More than 50 pages, and more than 50 fine illustrations were added in the 8th edition. The whole work has been thoroughly revised, and contains the very latest in respect to bee-keeping. It is certainly the fullest and most scientific work treating of bees in the World. Price, by mail, **$1 25.** Liberal discount to dealers and to clubs.

A. J. COOK, Author and Publisher,
1C1y Agricultural College, Mich.

☞ For sale also at the Office of the BEE JOURNAL, at wholesale or retail.

Bee-Keepers' Supplies.

WE have added to our LARGE FACTORY a **SPECIAL DEPARTMENT** for the

Manufacturing of Bee-Hives,

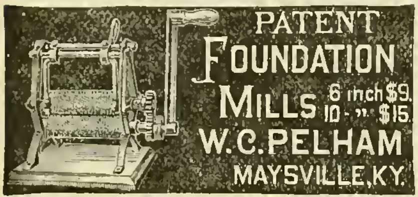
AND

White Poplar Dovetailed SECTIONS.
Also, One and Two-piece

☞ All Orders will be filled promptly at the **LOWEST FIGURES.**

Send Stamp for Catalogue and Samples.

The H. F. MOELLER M'fg Co.
1A26t DAVENPORT, IOWA.



PATENT FOUNDATION MILLS 6 inch $9. 10 " $15.
W. C. PELHAM
MAYSVILLE, KY.

37AB1y

The VICTOR HIVE

REVISED PRICES—IN THE FLAT.

DOUBLE-WALLED or CHAFF HIVES 5 in one lot, each, **$3 50;** 10, each, **$3 40;** 25, each, **$3.25;** 100, each, **$3.00.**

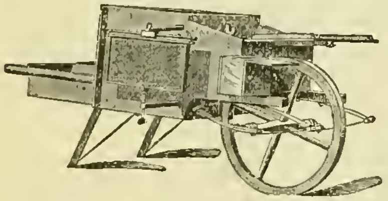
SINGLE-WALLED HIVES, 5 in one lot, each, **$2.50;** 10, each, **$2.40;** 25, each, **$2.25;** 100, each, **$2.00.**

EACH HIVE has Gable Roof, 2 Section Cases, 10 Langstroth Brood Frames, and is complete except Sections or Extracting Frames, which are interchangeable, and may be used in separate cases on the same hive. For two sets of either, add **25** cts. to the figures. Hives with the Victor Frames **10** cts. less.

We now make the Victor Sections as follows: White Pine, dovetailed, 1 or 2 lbs., per 1,000, **$6.00.** Extra choice White Poplar, same, **$7.00.** We have new and **original** Machinery, and warrant our work to be unexcelled. Send for Catalogue.

Address, **DR. G. L. TINKER,**
1Atf **New Philadelphia, O.**

SYSTEMATIC AND CONVENIENT.

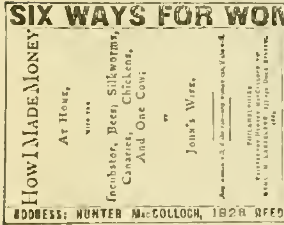


DAVIS' PATENT HONEY CARRIAGE,
REVOLVING COMB-HANGER,
Tool Box and Recording Desk Combined.

Price, complete, only............ **$18.00.**

For sale by **ALFRED H. NEWMAN,**
923 West Madison Street, CHICAGO, ILL.

SIX WAYS FOR WOMEN TO MAKE


How I Made Money
At Home,
Incubator, Bees, Silkworms, Canaries, Chickens, And One Cow;
John's Wife.

MONEY AT HOME.

Learn about the Incubator, Bees, Silkworms, Canaries, Chickens, and one Cow. Book, 5 x 7 in; full of Engravings

MAILED FOR 30 CTS.

ADDRESS: HUNTER McCOLLOCH, 1828 REED STREET, PHILADELPHIA.

$200,000

in presents given away. Send us 5 cents postage, and by mail you will get *free* a package of goods of large value, that will start you in work that will at once bring you in money faster than anything else in America. All about the $200,000 in presents with each box. Agents wanted everywhere, of either sex, of all ages, for all the time, or spare time only, to work for us at their own homes. Fortunes for all workers absolutely assured. Don't delay. H. HALLETT & Co.
51A1y Portland, Maine.

New and Enlarged Edition

OF

BEES and HONEY,

OR THE

Management of an Apiary for Pleasure and Profit; by

THOMAS G. NEWMAN.

Editor of the Weekly Bee Journal.

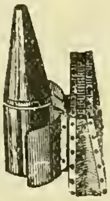
925 West Madison Street, Chicago, Ill.

It contains 220 profusely illustrated pages, is "fully up with the times" in all the improvements and inventions in this rapidly developing pursuit, and presents the apiarist with everything that can aid in the successful management of the Honey-Bee, and at the same time produce the most honey in its best and most attractive condition.

PRICE—Bound in cloth, $1.00; in paper covers, 75 cents, postpaid.

☞ **A Liberal Discount to Dealers, by the Dozen or Hundred.**

☞ The Monthly BEE JOURNAL for a year and the pamphlet "Bees and Honey," will both be sent for $1.



BINGHAM SMOKERS.

I can sell the above Smokers at MANUFACTURERS' PRICES, by mail or express, at wholesale or retail. All the latest improvements, including THE CONQUEROR, and THE DOCTOR.

Send for my 32-page Illustrated Catalogue of Bee-Keepers' Supplies of every description.

ALFRED H. NEWMAN,
923 W. Madison, CHICAGO, ILL.

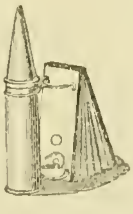
Bee-Keepers' Badges at Fairs.

We have some **ELEGANT RIBBON BADGES,** having a rosette and gold Bee, for bee-keepers' use at Fairs, Conventions, etc. Price 50 cents each, by mail, postpaid.

Address, **THOMAS G. NEWMAN,**
925 West Madison St., CHICAGO, ILL.

NEW ORLEANS EXPOSITION.

VISITORS to the Exposition should write to the Secretary of the Illinois Exhibitors' Association, No. 115 Customhouse St., New Orleans, La., for a guide and instructions about rooms, board, etc., as it will save them money. Enclose postage stamps for return answer, and state how many rooms are wanted.



Bee-keepers' Supplies,

Standard Langstroth,

Quinby Standing-Frame,

And all other kinds of **Hives,**

MADE TO ORDER.

Quinby Smoker a specialty.

I shall supply anything you need in the Apiary. Send for Illustrated Price List.

W. E. CLARK, successor to L. C. Root,
7A13t ORISKANY, Oneida County, N. Y.

GENERAL CLUBBING LIST,

With Weekly Bee Journal.

Subscription price of each periodical named below.	Our Club List.		Combination price with our paper. Both Periodicals for
1 00	Boston Globe	w	3 00
2 50	" Every Other Saturday, *Lit.*	s-m	4 10
1 50	" Our Little Ones, (*O. Optic*)	m	3 25
4 00	Chicago Current, *Literary*	w	5 20
1 50	" Drovers' Journal	w	3 40
1 50	" Farmers' Review	w	3 20
1 00	" Herald, *Independent*	w	2 85
1 00	" Inter-Ocean, *Republican*	w	3 00
2 50	" " "	s-w	4 40
2 50	" Religio-Phil. Jour., *Spirit*	w	4 10
2 00	" Skandinaven, *Swedish*	w	3 85
2 00	" Staats-Zeitung, *German*	w	3 80
2 25	" Svenska Tribunen, *Swed*	w	4 00
2 50	" Standard, *Baptist*	w	4 35
1 25	" Times, *Democratic*	w	3 20
1 00	Cincinnati Times-Star, *Ind*	w	3 00
1 15	" Enquirer, *Democratic*	w	3 15
1 25	" Gazette, *Republican*	w	3 05
1 00	Detroit Free Press, *Family & Lit*	w	3 00
1 00	Kansas City Journal, *Republican*	w	3 00
1 00	" Times, *Democratic*	w	3 00
1 50	Louisville Courier-Journal, *Dem*	w	3 30
2 00	Milwaukee Peck's Sun, *Humor*	w	3 85
1 50	New York Am. Agriculturist	m	3 10
4 00	" Art Amateur	m	5 25
1 50	" Christian Herald, *Ills*	w	3 20
4 00	" Century, *Literary*	m	5 70
2 00	" Demorest, *Ladies*	m	3 70
1 75	" Golden Argosy, *Lit*	w	3 25
2 50	" Graphic, *Illustrated*	w	4 00
4 00	" Harpers' Weekly, *Illus*	w	5 40
2 50	" Leslie's Sunday Mag	m	4 20
5 00	" North Amer. Review	m	6 30
2 00	" Phrenological Journal	m	3 75
2 00	" Rural New Yorker	w	3 85
2 20	" Scientific American	w	4 95
1 00	" Times, *Ind. Republican*	w	3 00
1 25	" Tribune, *Republican*	w	3 10
1 00	" World, *Democratic*	w	3 00
2 00	Philadelphia Call, *Lit. & Humor*	w	4 00
2 00	" Arthur's Home Mag	m	3 50
2 00	" Godey's Lady's Book	m	3 70
3 00	" Hearthstone, *Fiction*	w	4 25
2 00	" Peterson's Magazine	m	3 60
2 00	" Practical Farmer	w	3 25
1 00	" Press, *Republican*	w	3 00
1 50	Washington National Tribune	w	3 00

THOMAS G NEWMAN,
925 West Madison St., Chicago, Ills.

40 Embossed and Hidden Name Cards, Hand holding Flowers, &c., Game of Fortune and Present, 10c., 11 packs, Pearl Ring and Handkerchief, M. BLAKESLEE & CO., North Haven, Ct.

FREE! FREE! Solid Gold and Silver Watches, Chains, Rings, and 100 other useful articles absolutely Free! 50 Elegant Gold Leaf Embossed and Souvenir Cards with your name in New script Type, 10c., 2 packs and 3 Elegant French Dolls with wardrobe of 32 pieces, 20c 3 packs and this beautiful Rolled Gold Ring, 30c. Our styles of Imported, Satin Fringe and Real Silk Florals are unequaled. Full instructions how to obtain all the above articles free, also a full line of samples free with every order. We want Agents, and offer Gold to those who seek it. Agents make $5.00 per day handling our goods. Send at once; don't miss this opportunity as this offer may not be repeated. Address WEST HAVEN MANUFACTURING WORKS, West Haven, Conn.

CARDS & KNIFE FREE!

50 different designs **Birds, Swiss Floral, Ivy Wreath, Gold Panel, Sentiment, Oval Embossed, Summer, Winter, Moonlight & Marine scenes,** all in beautiful colors on superfine enameled board

with your name in fancy type 10c. 11 pks and this beautiful Pearl Handle 4-bladed Knife (for lady or gent) $1.00 By getting 10 of your friends to send with you, you obtain an elegant knife and a lovely pack of cards FREE. **CAXTON PRINTING CO., Wallingford, Conn.**

40 Hidden Name, Embossed and New Chromo Cards, name in new type, an Elegant 48 page Gilt bound Floral Autograph Album with quotations, 12 page Illustrated Premium and Price List and Agent's Canvassing Outfit, all for 15 cts. SNOW & CO., Meriden, Conn.

BEESWAX.

I pay **25c.** per pound delivered here, for yellow Beeswax. To avoid mistakes, the shipper's name should always be on each package.

ALFRED H. NEWMAN,
923 West Madison St., CHICAGO, ILL.

WEEKLY EDITION
OF THE
AMERICAN
ESTABLISHED IN 1861
OLDEST BEE PAPER IN AMERICA
BEE JOURNAL,
PUBLISHED BY
THOMAS G. NEWMAN,
EDITOR AND PROPRIETOR,
925 WEST MADISON-STREET, CHICAGO, ILL.
Weekly, $2 a year; Monthly, 50 cents.

Vol. XXI. March 4, 1885, No. 9.

☞ We have just returned from the International Bee-Keepers' Congress at New Orleans, but have neither time nor space for comments. The meeting was a large and enthusiastic one—24 States were represented including Canada. The first day's proceedings are given in this paper, and the remainder will be published in our next.

◆

☞ Many Letters requiring our personal attention have accumulated during our absence in the South. We shall give them our personal attention as soon as possible, and will simply ask correspondents to exercise a little patience.

◆

☞ The following from the *Indiana Farmer* is good and to the point:

The management of bees can only be successful when conducted with a perfect understanding of their natural history, and in accordance with the instincts which govern them.

Those wishing to engage in bee-keeping should thoroughly understand that keeping bees is not necessarily bee-keeping.

No one would ever think of closing up a coop of chickens with an inadequate supply of food to last them through the long winter months with any hopes of their surviving; yet we find many who will allow their bees to go into winter quarters short of stores, then grumble at their ill-luck in keeping bees.

◆

☞ The Sixth semi-annual meeting of the Western Bee-keepers' Association will be held in Unity Chapel, at St. Joseph, Mo., on Felix St., between 7th and 8th streets, on Thursday and Friday, April 9 and 10, 1885, commencing at 10 a. m. on April 9. All interested in bee-culture are invited to attend and make the meeting as interesting as possible. A full programme will be prepared and a general good time may be expected.

C. M. CRANDALL, *Sec.*

The International Congress.

The International Congress met at 10:30 a. m. on Tuesday, Feb. 24, 1885, as per announcement, with a good attendance from 24 States and Canada.

Upon motion, Mr. S. C. Boylston, of South Carolina, was elected temporary President, and T. G. Newman, of Ills., temporary Secretary. The chairman said that he was highly honored by having been called to the chair of such a meeting, the influence of whose members was felt all over the American Continent, and hoped there would be much good done by the meeting of so many successful honey-producers. The deliberations were to extend to every subject of practical apiculture, and there would be a thorough sifting of opinions on all the subjects discussed.

The permanent officers were elected as follows: President, Dr. J. P. H. Brown, of Augusta, Ga.; Secretary, T. G. Newman, Chicago, Ills.; Treasurer, Paul L. Viallon, Bayon Goula, La.; and one Vice-President for each State or Province represented.

Representatives from several bee-keepers' societies passed in their credentials, and they were welcomed by the Congress.

A paper was read from Mr. S. F. Pettit, of Belmont, Ont., as follows:

HONEY-PRODUCTION IN CANADA.

God has clothed and beautified nearly all parts of His footstool with flowers, that fill the air with rich fragrance and delight the eye of all. The humble poor as well as the opulent, may enjoy them. But these are not the only uses for which they are designed. They each secrete a particle of nectar, some more, and some less. The Dominion of Canada is no exception to the general rule; but, on the contrary, from the Atlantic Ocean to the Pacific, and from the Great Lakes and the 49th parallel, to the frozen regions of the North, flowers everywhere abound in great luxuriance and profusion.

In Ontario, Quebec, and the Maritime Provinces, the greatest honey-producing tree in the world, perhaps, the linden or basswood, grows abundantly. The soft maple and sugar-maple yield no inconsiderable quantity. From the latter, average colonies will, in favorable seasons, store 20 lbs. or more.

Then we have the fruit trees, grape-vines and willows, both small and great, in endless variety. Of weeds, at present developments, the Canadian thistle stands first on the list as a honey-producer, but—"beware! beware! O, beware!" Then comes the golden-rod, ox-eyed daisy, the asters, etc., besides many others which go to make up the list.

But the plants to which bee-keepers in the Provinces named, are most indebted, and to which they look for their greatest and surest supply, are the different varieties of clover. Where the forests are cleared away, these Provinces are emphatically a land of grass; that is, the grasses here attain to great perfection, and where the land remains neglected, it is soon covered with vegetation, white clover doing its full share.

The power of the linden, or basswood, to produce honey when all the conditions are favorable, is a matter of wonder and astonishment. About July 15, the tree is profusely decorated, yea, nearly covered, with cream-colored blossoms so filled with honey that the limbs literally bend under their loads of coveted sweets. At this time, if a limb be struck a sharp blow from beneath, the honey will fall to the ground in a sweet shower. But unfortunately, the linden does not, on an average, at least in my section of country, produce honey more than about 2 years out of 5. Every other year is the rule, and besides that, caterpillars devour the foliage about 3 years out of 10.

Linden honey is aromatic, of high, pleasant flavor, clear, and of sparkling brightness. When well ripened it granulates solid. Clover honey is clear and bright, though slightly tinged with amber, is very sweet, although a clearly perceptible acidity is always present. It also candies solid. Thistle honey is clear and bright, of fine quality, and peculiarly pleasant. It candies slowly. These immaculate honeys have each an exquisitely delightful flavor peculiarly its own.

In Keewatin, Manitoba and the "Great Lone Land" or Canadian Northwest, the sources of honey, at present, are confined principally to prairie flowers, which are very plentiful from early spring until frost. Willows abound, and will add considerably to the wealth of the bee-keeper; but, if I am correctly informed, the honey is of an inferior quality; therefore we must patiently await the developments which the near future will surely bring about in that great country. Both the soil and the climate seem to be peculiarly favorable to the production of white clover, and it is rapidly taking possession of the soil where cultivation has destroyed the native grasses.

I now desire to point out some of the advantages the Dominion of Canada possesses over the South, in the production of honey:

1. Clover springs up spontaneously over all the land.

2. The summer season is comparatively short, but the honey-flow generally is "right smart;" and then, when the honey season is over, bees soon go into winter quarters, and do not rob and destroy one another, for the simple reason that they cannot do so.

3. The sun shines each day, in the Dominion of Canada, from 2 to 4 hours longer than at New Orleans; but that is not all; darkness does not come on so rapidly after sunset as it does in the South. In a large portion of Canada, twi-light lingers all night, and bees can work long after sundown.

Now, when we take into consideration the great territorial extent comprised in the Dominion of Canada, the fertility of her soil, the beauty of her summers, and the length of her summer days, may we not with safety conclude that by-and-by Canada will be able to produce hundreds of thousands of tons of honey annually for foreign markets?

Perhaps some one will say, "But what about your killing winters?" Well, I will state that although Canadian winters are long and sometimes terribly severe, yet, withal, they are pleasant, bracing and enjoyable; and it is now a well established fact that bees, when properly housed, will remain healthy for 5 months or more without a cleansing flight.

All these advantages are not the only requisites necessary to make bee-keeping the occupation which we delight so much to land to the skies; but the question of a market will soon be one of the most difficult problems that the apiarist will have to solve. Did you ever think of it, that nearly all lands within the temperate and torrid zones, whether mountains or valleys, hills or dales, as well as the isles of the seas—all, everywhere, invite the labors of the honey-bee?

We talk of wheat belts, corn regions, the cotton fields of the South and the barley districts; we speak of the favorite locality of the pear and the apple, the orange and the lemon, etc., and each has its favorite and somewhat limited locality, but flowers and honey abound almost everywhere.

Now, add to all this the stubborn fact that California, in 1884, sent to the markets of Europe, thousands of tons of honey at an average of less than 5 cts. per lb., and we will have some crude idea of what our honey will soon have to compete with in the markets of the world.

Thos. G. Newman (Ills.) remarked that Manitoba could not be favorable for bee-culture—the season was too short and there was a lack of honey-producing flowers.

Mr. Wallace (Ontario) said that he fully agreed with Mr. Pettit's paper and mentioned the fact that the Canada honey exhibit at Toronto was the largest ever made in America.

The Secretary read the essay of James Heddon, Dowagiac, Mich., as follows:

VARIETIES OF HONEY-BEES — POINTS OF SUPERIORITY AND INFERIORITY CONSIDERED.

In giving you my conclusions, upon the above subject, conclusions formed from continued careful experiment with German and Italian bees, of the various strains, and observation and conversation with friends who have experimented with Cyprians, Syrians and Carniolans, I will say that I believe that all these so-called races should properly be divided into two—the brown and yellow bees; of which I believe the Italian and German represent the best of the two classes.

I find that great radical differences in points of character are not found between Cyprians and Syrians, or Germans and Carniolans, but between the brown and yellow bees, of whatever name they may be called. Now, if one race or the other possessed all points of superiority, and the other none of them, any discussion regarding "best bees," would be a thing of the past; but as it is a fact that points of superiority and inferiority, are about balanced between the races, it leaves a wide field in which the apiarist may well use his judgment and tact.

I think all practical honey-producers will admit that the following points of differentiation between the two races, not only illustrate more radical differences, but points of more importance.

Let us mention of the yellow bees, the following valuable points of superiority:

1. Protection of their home against enemies. This characteristic is of greater value to the novice than the specialist; or, those living in the South gaining no assistance from severe winters.

2. As a rule, they have a longer proboscis. This point is of advantage in such locations as, at certain times of the year, abound with flowers which have many nectaries too deep for honey-bees.

While it is more or less correct to say that the Italians stick better to their combs, are more courageous, will remain in any new location better, are less liable to quarrel when different colonies are united, though fiercer in disposition, are less liable to sting, because they are less liable to take wing, that the queen is more readily found, etc.—all these are minor points, and even the second, can hardly be called a major point.

Now, let us see about the brown-German bees: 1. They are superior comb-builders, making wax more readily, of better color, capping over their combs quicker and whiter, leaving a space between the honey surface and cap which not only much improves the appearance but enhances the price two or three cents per lb., securing a more ready sale with that advance, and enables the honey to bear a humid atmosphere for a considerable time, without any material deterioration.

The foregoing was of not so much importance 12 and 15 years ago, when the honey supply was unequal to the demand and buyers came hundreds of miles to secure our crop—let it look as it might, if it was only "honey;" but, in these days, it is to me the most important point of superiority to be found with any race of bees.

2. They are much less inclined to swarm. This is an important trait, especially to the larger special producer; also to any who cannot give their apiaries close attention. Either because they have too many apiaries for the help employed, or too few colonies in one apiary to afford them continual attention.

Minor points of superiority are, that they build the most worker comb and straighter (some may wonder why I call straight worker comb-building a minor point; because of the otherwise, wise and general use of full sheets of comb foundation; but in cases where such are not used, this trait of the brown German bees is a major point, greatly in their favor), enter surplus receptacles more readily, in cases where the apiarist has bad communications thereto, are more easily shaken from the combs (sometimes an advantage and sometimes not), and are more sensibly affected by the loss of the queen. (This aids us in many manipulations.)

When swarming, these bees alight sooner and with more certainty, than Italians; a swarm hives more readily, they can be driven more easily, heeding the admonitions of the smoker more promptly, etc.

I do not doubt the wisdom of choosing the pure Italian bees, by those who live in the South, and make extracted honey a specialty; but for those who live in the North, and produce comb honey (which I think more profitable wherever the bulk of the crop is light colored), the pure, brown-German bee is radically my preference over any Italian, Cyprian or Syrian, or crosses between them.

You may ask what of my crosses? This strain of bees I have been working some six or seven years, hoping to combine the best and most essential points of character of the brown German and leather-colored Italian bees. I am forced to admit that my success has been only partial. I consider this strain to-day ahead of all other bees, as a general-purpose bee, *i. e.* to be kept in an apiary where both comb and extracted honey is produced as a crop. But where one is running exclusively for comb honey, we (my students and self) last season came to the unanimous conclusion that while we preferred this strain, to pure Italians, (of which we had many colonies) we yet preferred the pure, brown-German bee to all, for the production of comb honey as a specialty. In this cross I have succeeded, to my satisfaction, in retaining the valuable characteristics of the Italian bee, but not so well in retaining those of the pure German—so very valuable to the producer of comb honey.

While I am willing to pit colony for colony of this strain, against an equal number of Italians, for steadfastness to the combs and its consequent behavior; longer-tongue, and consequent honey-gathering qualities, and faithful protection of their home against all enemies, I cannot truthfully say that they will compare favorably with an equal number of colonies of the pure-brown Germans for the valuable comb-honey and non-swarming qualifications, as above stated.

New conditions and demands, force us to different fixtures. In many things, I find that what was best 15 years ago, (and would be to-day, were conditions the same) are not best for the present. I am convinced that there is going to be a turning backward from the yellow to the brown bee. We are as yet little acquainted with the Carniolans; should it prove that this strain is equal to the Germans (if nothing more), the change would likely be done by introducing them.

Purchasers of queens prefer something new; venders prefer the new prices. This branch of the darker race is already being praised (above the Italians) for the same qualifications possessed by the brown Germans. It is however further declared that they excel all in good nature; but what, to me, more than off-sets that, is an accompanying admission that they are as bad or worse than the Italians about swarming. My great objection to the swarming impulse, is its hinderance to the perfection of a system for managing out apiaries without attending them continually, that we may with profit produce the cheap honey of the future.

To conclude I will say to all, think these things over and digest them well before you invest money in queen bees. Have there not been many dollars invested (and honestly to, at both ends of the deal) that have never been re-realized?

Mr. Wallace (Ont.) said that the native bees capped the honey so that it was whiter—and he thought that they gave it a double capping.

Paul L. Viallon (La.) said that he could manage either race of bees, but it must be said that in good seasons they would gather honey about the same, but in poor seasons the Italians came out very far in the lead.

O. F. Bledsoe (Miss.) said that bee-culture with Italian bees meant modern bee-keeping—movable frames, etc. With black bees, it was the very opposite. He disagreed with Mr. Heddon's essay.

Dr. Hodgson (S. C.) remarked that the minor points mentioned by Mr. Heddon were major ones—and his major points were but minor ones. The Italian bees are infinitely superior to any native bees. If bee-culture is to return to the keeping of black bees, then he would retire from the pursuit.

Mr. Killo (Texas) said that native bees were not so prolific as the Italians.

Judge Andrews said that he totally disagreed with Mr. Heddon's essay, and would not keep bees at all, if the Italians were to be discarded.

A general discussion ensued, on the black bees, moth-worms, and a variety of subjects, not to the point.

The President remarked that as it had been suggested that many wanted to see the Exhibits in the World's Exhibition, it might be desirable to decide upon the number of meetings to be held each day. Upon motion, the meeting adjourned until 9 a. m., Wednesday, when many more bee-keepers were expected to arrive.

SELECTIONS FROM OUR LETTER BOX

Bees Are all Right.—A. W. Fisk, Bushnell,⊸Ill., on Feb. 26, 1885, writes as follows:

The last season was a very poor one for honey and bees in this locality, and we are having a very severe winter with a great quantity of snow. I am in hopes, however, that the deep snow will help to protect the bees through the coldest weather; for many bee-keepers in this section leave their bees on the summer stands with little or no protection. I put 28 colonies into the cellar and have a few colonies on the summer stands in double-walled, plastered hives. So they are all right. We are expecting wonders from our bees next season, for we have had two poor seasons in succession. Bee-men in this vicinity are waking up to the subject of bee-keeping, and last fall they organized a society called the "Progressive Bee-Keepers' Association of Western Illinois." Being its "executive," I am much interested in its welfare, and I may inform the readers of the BEE JOURNAL concerning its progress. We shall try and do our "level best" at progressive bee-keeping.

Report, from David Watterson, Bristow,♁Iowa, on Feb. 21, 1885:

Last spring I had 14 colonies of bees and during the season I increased them to 28 colonies, and took 500 lbs. of comb honey.

Report, etc—11—J. E. Cady, (68–205), Medford,○ Minn., on Feb. 24, 1885, writes as follows:

My bees are wintering finely. I have failed to find one dead colony thus far. The mercury at present is 42° above zero in my cellar. On Aug. 7, 1884, I bought an entire apiary of 133 colonies of bees, with the knowledge that they had no honey. The fall being a very poor one for honey, I had to feed 70 out of the 111 colonies of the bees which I have in my cellar. The combs were very heavy with pollen and I have purposely left those in the hives of the colonies which I fed. I fed two barrels of coffee A sugar, giving 10 lbs. of sugar and 4 lbs. of water each, to the most of them All of them had a little honey, perhaps 4 to 10 pounds. About 30 colonies had honey enough of their own on which to winter, and to the remaining 11 colonies I gave honey from my old apiary. I find that by dropping the frame proper 5-6 or ⅜ of an inch below the top-bar (as illustrated on page 9, in Mr. Heddon's article) and making the top-bar 1⅛ inches wide, it makes a very convenient and cheap honey-board in connection with a reversible frame.

Great Loss of Bees.—Wm. Malone, Oakley,♀Iowa, on Feb. 23, 1885, says:

Last fall there were 231 colonies of bees in Liberty township (Iowa), and I am satisfied that there will not be 50 of them alive on May 1, 1885. Every one that I have heard from has lost all of his colonies. I have lost 18 colonies out of 30. I have 8 colonies in a "clamp" that I have not yet examined. The trouble is starvation, with honey in the next comb. There were no signs of bee-diarrhea until brood-rearing commenced. We all winter our bees on the summer stands with 10 combs in each hive. If the bees had been on 6 frames with the same amount of honey, they would have wintered all right. The present winter beats that of 1880—81.

The Weather and Bees.—F. A. Burrill, Cuba, N. Y., on Feb. 25, 1885, writes thus:

We are having a severe winter here. My bees are all on the summer stands with straw packed over the brood-chambers. It is my first experience of wintering bees in that way and I do so from necessity. To-day the weather is quite warm and it is thawing some.

Report, from Aaron Jennings, Medusa,⟜ N. Y., on Feb. 17, 1885:

I have 250 colonies of bees in my bee-cellar, and the hives are tiered up four high on 2x3 scantlings. They are as quiet as need be, and the mercury is from 40° to 45° above zero. When the weather gets warm, towards spring, I put a tub of ice in the cellar to keep the temperature down. I never take away the pollen, have never fed any sugar syrup, and I never lost any colonies with bee-diarrhea, when put into the cellar about Nov. 1, or any time before we have had very cold weather. In the fall of 1881 I bought 25 colonies of bees which were left out until after we had 3 or 4 days of zero weather. I then put them into my cellar and towards spring they had the diarrhea; 8 colonies died with it, 10 came very nearly dying, and the other 7 were weak. I am satisfied that the cold was what caused it. If Mr. Norris, of Norrisville, Wis., will take off the bottom-boards and set his hives up on scantlings, he will not have any water in them, nor any dead bees in the way.

Trouble in Wintering Bees.—L. Reed, Orono,⊙ Mich., on Feb. 27, 1885, says:

I have kept bees for 30 years, and I thought that I knew all about it, but I find that I can learn something yet. I have been unsuccessful in wintering my bees for the last 2 years. Two years ago this winter I lost 55 colonies; last winter I lost 33. Last fall I built a cellar under my house especially for bees, and I examined them yesterday and found them in good condition. Bees do well here. We have any amount of red raspberry, basswood and white clover, the only trouble being in wintering.

Bees in Good Condition.—John Rey, East Saginaw,⊙ Mich., on Feb. 26, 1885, writes thus:

My bees have had good "flights" during the last 3 days, after I dug them out from under the snow. They had been under the snow since Jan. 17. I found 6 dead colonies, and the remaining 50 seemed to be in good condition. I was somewhat alarmed about their being under the snow so long. I never had bees under the the snow any longer than 2 weeks at a time, but this time it was about 5 weeks. Of the 6 colonies that were dead, 3 were queenless and the other 3 were smothered, the entrances being completely frozen shut, with about 1 inch of ice on the inside. I notice that all the colonies which have old queens, are wintering the best; they seem to be the quietest, and did not commence to rear brood as early as the young queens; neither do they spot the snow so much as the young colonies.

CLUBBING LIST.

We will supply the **American Bee Journal** one year, and any of the following Books, at the prices quoted in the last column of figures. The first column gives the regular price of both. All postage prepaid.

	Price of both.	*Club*
The Weekly Bee Journal,	$2 00..	
and Cook's Manual, latest edition	3 25..	3 00
Bees and Honey (T.G.Newman) cloth	3 00..	2 75
Bees and Honey (paper covers)	2 75..	2 50
Binder for Weekly Bee Journal	2 75..	2 50
Apiary Register for 100 colonies	3 25..	3 00
Dzierzon's New Bee Book (cloth)	4 00..	3 00
Dzierzon's New Book (paper covers)	3 50..	2 75
Quinby's New Bee-Keeping	3 50..	3 25
Langstroth's Standard Work	4 00..	3 75
Root's A B C of Bee Culture (cloth)	3 25..	3 10
Alley's Queen Rearing	3 00..	2 75
The Weekly Bee Journal one year		
and Gleanings in Bee-Culture (A.I.Root)	3 00..	2 75
Bee-Keepers' Magazine (A.J.King)	3 00..	2 75
Bee-Keepers' Guide (A.G.Hill)	2 50..	2 35
Kansas Bee-Keeper	3 00..	2 75
The Apiculturist, (Silas M. Locke)	3 00..	2 90
The 6 above-named papers	6 50..	6 00

THOMAS G. NEWMAN,
925 West Madison Street., Chicago, Ill.

☞ To give away a copy of "Honey as Food and Medicine" *to every one who buys a package of honey*, will sell almost any quantity of it.

CORRESPONDENCE

Explanatory.—The figures BEFORE the names indicate the number of years that the person has kept bees. Those AFTER, show the number of colonies the writer had in the previous spring and fall, or fall and spring, as the time of the year may require.

This mark ⊙ indicates that the apiarist is located near the centre of the State named: ♂ north of the centre; ♀ south; O+ east; +O west; and this ♂ northeast; ~O northwest; O~ southeast; and ♀ southwest of the centre of the State mentioned.

For the American Bee Journal.

Is Pollen Fed to Larval Bees?

G. M. DOOLITTLE.

On page 60, I notice that Mr. J. Rutherford takes exception to my saying in a former article, that "the intestines of the newly-hatched bee are filled with pollen when it emerges from the cell," and he says: "Now, if I understand things rightly (scientifically), the intestines of the young bee are not filled with pollen, because the young bee in the larval state does not eat pollen; therefore it is impossible for any one to see it with the naked eye. The food of the young bee consists of a purely animal secretion," etc.; after which he adds: "Will Mr. Doolittle kindly reply through the BEE JOURNAL, as all I want is to get at the truth of the matter." As I am always willing to answer all questions put in this kindly manner, I will try to explain my views on this subject as nearly as I can.

From many careful observations regarding the food of larval bees, I have been led to believe that such food was composed of about two parts honey or saccharine matter, four parts pollen, or flour, when used in early spring for a substitute, and one part of water, the whole being taken into the stomach of the bee and formed into chyme, after which it was given to the larval bees in the cream-like form as we see it in the cells.

Right here I wish to digress a little and give some farther observations as bearing on the eating of pollen by the old bees. It will be remembered that about a year ago I described, in the BEE JOURNAL, how I starved some colonies of bees outright, and others partially so, in trying to make them eat pollen in the fall and at other times when there was no brood in the hive, and that, as far as I could see, not a cell of pollen was touched. At another time some of my colonies had to be fed, when I again tried an experiment which I had formerly tried several times, which was to see if the bees in some of those hives that had scarcely a cell of honey in them, but plenty of brood in all stages, would live if provided with pollen. As the weather at this time was so unfavorable that the bees did not fly for several days, I anxiously watched them to see what they would do as soon as the few cells of honey were gone. The first thing noted was that as soon as all the honey was gone, the larvæ were scrimped of food, and the eggs were removed from the cells or eaten by the bees, (I think the latter, as I have seen bees eat the eggs when dropped by the queen), while during the next day there was a general eating of the larvæ.

The next day after, the sealed drone-brood was taken from the cells and sucked dry, while the harder parts were scattered about the entrance and bottom-board of the hive. At this time I noticed the bees putting their tongues together as they do when young bees take a load of nectar from the field-bees in times of plenty, which thing was continued till nearly all of the pollen was used up in the hive, which lasted for several days, when it came good weather again so new supplies were gathered.

From these observations I have formed the opinions which I have heretofore given, that old bees only partake of pollen in the form of chyme, and that this chyme is only prepared when there is, or has been, brood lately in the hive. Hence, I said breeding in confinement came before pollen, as the cause of our wintering troubles.

But to return: That the larval bee subsists wholly on this creamy food or chyme, I think no one will deny, and if from my observations I am correct, the largest element in this food is pollen. As the larva absorbs this food, the grosser part of the pollen forms itself into the yellow streak seen in all larvæ when taken out of the comb, but most plainly in the drone larvæ; which streak is finally enclosed by the intestines of the newly-hatched bee, and evacuated on its first flight.

Mr. H. D. Miner guesses in a back volume of the BEE JOURNAL, that it takes 2 pounds of honey and pollen (½ pollen) to produce 1,000 young bees, but I think that he has the amount much too high; but be that as it may, it seems to me that there is no reason for a doubt but what pollen enters largely into the food of the larval bee, and I shall hold that belief until some scientist shall prove that I am wrong.

To show that I am not alone in this belief, I wish to give the testimony of others who incline to a like belief.

Gundelach says: "The larvæ are immediately fed by the workers, with a pellucid jelly, prepared in their chyle-stomachs by the digestion of honey and pollen mixed with water." Will Prof. Cook please note that Doolittle is not the only one who thinks that water is an essential element in this larval food? Neighbour says: "A portion of this pollen is taken at once by the 'nursing bees,' which are supposed to subject it to some change before offering it to the larvæ."

Kirby says: "With this pollen, after it has undergone a conversion into a sort of whitish jelly by being received into the bee's stomach, where it is probably mixed with honey and regurgitated, the young brood immediately upon their exclusion, and until their change into nymphs, are diligently fed by other bees, which anxiously attend upon them, and several times a day afford a fresh supply." Gallup says: "Every bee-keeper ought to know that bees do not feed pollen directly to their young; but it is elaborated in the stomach of the bee, into chyme to feed the young on."

Quinby says: "How this food is prepared is mere conjecture. The supposition is, that it is chiefly composed of pollen; this is strongly indicated by the quantity which accumulates in colonies that lose their queens and rear no brood." Prof. Cook says: "The food is composed of pollen and honey. Certainly of pollen, for, as I have repeatedly proved, without pollen no brood will be reared;" and again, the function of bee-bread is to help furnish the brood with proper food. In fact, brood-rearing would be impossible without it."

A. I. Root says that "it is supposed that this larvæ food is pollen and honey, partially digested by the 'nursing bees.' Bees of this age, or a little older, supply the royal jelly for the queen-cells, which is the same, I think, as the food given to very small larvæ. Just before the larvæ of the worker bees and drones are sealed up, they are fed on a coarser and less perfectly digested mixture of honey and pollen."

In the above, all agree that pollen enters largely into the food of the larval bee, and I think it must be conclusive to Mr. R. and others, that I was right regarding the matter.

Borodino,⊙N. Y.

For the American Bee Journal.

Wisconsin State Convention.

A goodly number of bee-keepers met in the Agricultural Rooms of the State Capitol at Madison, Wis., on Feb. 6, 1885. G. W. Sanford, of Dane county, was elected temporary chairman, and on motion, J. W. Vance was elected Secretary.

The permanent officers were elected as follows: C. A. Hatch, of Richland county, President; George Grimm, of Jefferson, 1st. Vice-President; R. A. Morgan, of Columbia, 2nd. Vice-President; Frank McNay, of Juneau, Treasurer; and J. W. Vance, of Dane, Secretary.

The Constitution and By-Laws, as contained in the "Bee-Keepers' Hand-Book" was read, and on filling the blanks, was unanimously adopted, and 22 signed the constitution and paid the fee.

A committee was appointed to prepare a programme for discussion, and after some deliberation they reported the following topics: 1. "The best system of producing comb honey." 2. "Controlling after-swarms." 3. "Races of bees." 4. "Best method of wintering bees." Mr. Joiner began the discussion upon the first topic. He said that comb honey ought to be made a specialty. He commenced with box-hives, afterwards used the frame-hives, and at first, ran his apiary for extracted honey. He considered the use of foundation essential both for brood-frames and sections. The shape of the hive is not so important as the situation of the flowers accessible to the bees, or the method of management. He keeps about 30 colonies of bees, and has about 300 extra combs. He uses wide frames in the surplus arrangements. From time to time he examines them and removes all filled sections. The short, or as he terms them, "bob-tailed" sections, he leaves and allows the bees in the spring to have access to the hives containing these sections, when the bees clean them out. He prefers the hybrids, believing that a cross always takes care of its honey. Some of the best bees are of the most common stock. Black bees are hard to find now.

Mr. Wilcox has been using the Simplicity hive, but does not use wide frames. Hereafter he intends to use the Heddon-Langstroth hive and will follow the Heddon system of management. He will use sections 1¾ inches wide with a strip of foundation nearly the full size of the section, placing it in the middle of the section. Another system is the Walker system, by which the rack is ready to be shipped as soon as taken from the hive. He employs the "tiering up" plan, which is especially of advantage in very warm weather. He prefers the Italians for producing extracted honey.

Frank McNay said that if sections are used without separators, we must use narrow sections, otherwise the bees will build extra combs. After the bees get started in a section, he places another under it, and as soon as a section is filled he removes it.

Question. "How many use the wide frames?" Only two bee-keepers present preferred them.

The next topic, "Controlling after-swarms," was then discussed.

Mr. Frank McNay had long ago discovered that cutting out queen-cells would not prevent swarming, and particularly after-swarming. He hives the swarm, places it upon the old stand, moves the old hive to a new stand and in the evening of the next day he brings the old colony and shakes all the bees into the new hive on the old stand so that all the young queens are destroyed. His first swarm appears about June 8. He thinks that the brown German bees are better than the blacks.

M. A. Gill practices dividing colonies, rears queens as nearly as possible under the swarming impulse, and desires to have all colonies strong at the right time to gather honey.

Mr. Wilcox returns swarms, and whatever bees they have go to work in the sections. He generally prevents after-swarms and gets white honey.

Frank McNay said that much depended upon the location of an apiary; while Mr. Wilcox's location was very good for his own plan, it would not do for the speaker's location, on account of the bees getting too strong.

Mr. Gill had practiced dividing colonies for so long a time that his bees have lost the "knack" of natural swarming. He has not had a natural swarm for 3 years.

Last year Mr. McNay had an increase of only 7 colonies in an apiary of 45.

Mr. Hatch explained the Heddon method of controlling after-swarms, and thought that it was very essential to keep good queens.

The next topic discussed was "The races of bees."

Mr. Gill said that he had had experience with 4 races of bees, but he preferred the hybrid as a bee for business, and said that a dark cross gives the bees vigor. As a rule he had found that the best hybrids are bred from pure mothers; if produced by Italian mothers, crossed with the brown bee, they will better protect sheir stores from robbers. The light-colored bees he had found to be lazy, but the dark, leather-colored bees had proven the best.

The next and last topic discussed was "The best method of wintering bees."

President Hatch said that it is a one-sided question. He had tried, without satisfactory success, the out-door plan and was now of the opinion that a deep, dry and well ventilated cellar is the best place in which to winter bees, not only because it is safer, but because it requires less honey. He thinks that each colony ought to have 20 pounds of good, thick honey; thickness of honey being an important quality. He does not look after the queens, as he considers it unimportant, and as they are troublesome to find. He thinks that it is a good idea to spread the brood-frames. He keeps the temperature of his cellar at about 45° above zero, and considers that the right temperature.

Mr. Gill spoke of an instance where a bee-keeper wintered his bees in the cellar under his kitchen, and the bees were so warm that they swarmed in February.

Mr. McNay gives plenty of ventilation at the bottoms of the hives by putting them on strips, thus giving a free circulation of air below. He considers this lower ventilation very essential to successful wintering.

The President thought that he must have the bottom-boards on the hives. Mr. Gill at first packed his hives in corn-fodder and lost all his bees but 6 colonies. Mr. Joiner has a pit dug in the hill-side, built around with saplings and covered with a double door. At one end of it there is a ventilating flue. He puts the hives in as soon as cold weather begins and leaves them until April, or when the maples are in bloom. He loses no colonies with this method of wintering.

Dr. Vance described his double-walled hive, in the construction of which he uses 3 thicknesses of building paper, instead of chaff. He could not say as yet that it is a success, because half of his bees died last winter, the most of the colonies evidently having died from starvation. Thus far this winter his bees are alive.

Mr. Gill stated that if the Doctor had put his hives in the cellar after his elaborate preparation, no doubt they would have wintered successfully. In the cellar the bees require much less honey. One winter his bees were in confinement for 108 days and consumed but 4 pounds of honey per colony. He thinks that 12 pounds of honey is enough and that combs of honey are the best feeders. On another occasion he wintered 145 colonies on 15 pounds of sugar syrup per colony.

Mr. McNay has a ventilating pipe from the cellar connecting with the pipe of the stove in the room above, and has had better success since using this arrangement.

Mr. Joiner thought that it will take about as much honey as if wintering out-doors.

Mr. McNay said that bees do not breed much until spring.

Mr. Elvers thinks that there are some advantages in out-door wintering, as the bees have brood earlier.

Mr. Gill thought that there was no advantage in having brood early. It was just as useless as it would be for a farmer to employ hands and board them for several weeks before the time of harvest.

Mr. Elvers said that he sometimes did that with advantage. In putting out the bees in the spring there is more or less dwindling, which is not so likely to occur in out-door wintering. Bees will materially diminish in a week after they are put out.

A table was made out in which 21 members represented 892 colonies, spring count; 1440 put into winter quarters; and 18,630 lbs. of comb honey and 47,770 lbs. of extracted honey produced during the season of 1884. Eight members use the Simplicity hive; 5, the Langstroth; 4, Kidder; 3, American; and 14 winter their bees in cellars; 1, in a bee-house; 1, in a pit; and 4, in chaff or double-walled hives.

The Secretary of the State Agricultural Society expressed his gratification at the success of the bee-department of the Society, assured its members of his interest in their behalf, and promised his cordial co-operation in helping forward the Wisconsin Bee-Keepers' Association.

Adjourned until Feb. 1886.

J. W. VANCE, *Sec.*
C. A. HATCH, *Pres.*

For the American Bee Journal.

Wintering Bees in Chaff-Boxes.

W. H. SHIRLEY.

All things considered, I believe that, for wintering bees, chaff hives stand at the head yet, and the closer the chaff is to the bees the better. In the fall of 1882, I constructed 150 wintering boxes, on the chaff-hive principle. Into these boxes I put the bees and their combs from their summer hives, and they wintered without any bee-diarrhea.

In the fall of 1883, after filling the 150 boxes, I had 17 colonies left which I put up in clamps with sawdust packing; 13 of the 17 died with bee-diarrhea, while not one of the 150 in the boxes showed any signs of it. Having sold all my interest here to Mr. Heddon, it will be for him to report how they winter in the boxes this winter—

one of the most severe winters for bees that I have ever known.

I never saw any dampness among the bees in these wintering boxes, but sometimes the chaff cushions which are used on top of the frames would be very wet on the upper sides. If all that dampness had been confined among the combs, I am sure that there would have been only empty combs left in the spring, where, as it was, there were live bees.

Chaff hives are too large and cumbersome to handle bees in in the summer; it is too expensive to keep both winter and summer hives, and the shifting from one to the other in the spring and in the fall is vexatious work. Next spring I intend to start anew in the bee-business, and I shall use a common-sense bee-hive of my own construction—one which admits of chaff cushions being placed all around the bees easily and quickly, and it also admits of the use of any number of frames, from 1 to 10, without division-boards or "dummies," and the frames are reversible without any complicated devices, being reversed by simply turning them over and putting them back. No honey-board is needed when using the surplus arrangements, for what I deem correct bee-spaces are kept by the construction of the surplus arrangements and the hive, viz: 3-16 of an inch, whenever bee-spaces are needed.

Glenwood, Mich.

For the American Bee Journal.

Pollen and Newly Hatched Bees.

M. MAHIN, D. D.

With the discussion of the pollen theory, so far as it is a controversy between Mr. Doolittle and Mr. Heddon, I do not wish to take any part; and perhaps if I were to express my views fully, I might not agree with either of them in all things. But there are statements in Mr. Doolittle's article on page 5, to which I wish to take exception. He says: "The first fact to which I wish to call the reader's attention is, that the intestines of the newly-hatched bee are filled with pollen when it emerges from the cell; in fact, this pollen is easily seen with the naked eye, in the larva, before it is sealed over in the cell." Mr. Doolittle is certainly mistaken in his supposed facts. The evidence is very clear to me, and I think that it will be to any one who will investigate the matter, that the nurse bees do not feed undigested pollen to the larvæ in even the smallest quantities. The food which they furnish is easily examined in the creamy-looking substance that is supplied to worker-larvæ, and in what is called queen-jelly, which I hold to be identical with the food of worker-brood, except in quantity, and in consistency, which latter is due entirely to evaporation. No pollen grains are ever found in this food.

But what of the statement that pollen may be seen in the unsealed larva? That is a case of mistaken identity. Mr. Doolittle has mistaken the brownish-colored, gummy substance which is converted into the cocoon that the larva always spins, for pollen. This substance is much more abundant in young queens than in young workers, and I have often had occasion to notice it when destroying immature queen-cells.

It is also a mistake to say that the intestines of the young bee are filled with pollen when it emerges from the cell. They are not *filled* with anything. The abdomen is quite small. I have never seen an exception, and I presume Mr. Doolittle has not. I have never dissected a bee just out of the cell, to see whether there was any pollen in its intestines, but I feel very sure that a microscope could not reveal a particle of it. When young bees emerge from the cells, they are quite small. They look as if they were almost starved, and doubtless they are; for the first thing they do is to hunt for something to eat. And now is the time when they get full of pollen. The newly hatched bee has an appetite for that substance, and will eat it if it can be found. I suppose that it is necessary to build up its immature system; for there is always an increase in size after it comes out of the cell.

With the general conclusions of Mr. D.'s article, I have no controversy, and yet there is one other point on which I wish to express dissent. He says: "I can see no other 'prime cause' for this state of affairs, but confinement; for where bees can fly every two or three days, no such thing can exist." Now, I have all the evidence that such a case admits of, that bees may have diarrhea and die when they can fly every day. Last spring, during the last week in April and the first in May, when the weather was warm, and my bees were gathering honey and pollen freely, most of the colonies were affected with this troublesome disease. They had all come through the winter in prime condition, and were healthy in the early spring; and it seemed strange that they should be diseased at that time. The grass in and about the apiary was full of dead and dying bees. Hundreds, not to say thousands, of young bees that had never been on the wing, would come out so distended with fecal matter, that they could not fly, and they would crawl away in the grass and die. Others would foul the alighting-board, or the front of the hive, and, probably, recover. I had seen a few bees affected in that way in former years, but never to the same extent. When the apple trees came into bloom, the disease disappeared. I did not lose any whole colonies, but several were sensibly weakened by the disease. In this case confinement had nothing to do with producing it; but, of course, a few days of confinement would have produced wholesale destruction. The cause of the disease must have been in the honey, or in the pollen, or both. The bees were working at the time on the flowers of willows, hard maples and plum-trees, the larger part of the forage coming from willows.

As a rule, bees will not have the diarrhea when they can fly every few days, but the rule is not without exceptions. And I know from extensive observation that if bees have much brood when cold weather sets in, and the cold is of long continuance, they are sure to perish with disease. I have proved that to my cost.

New Castle, Ind.

For the American Bee Journal.

Experience in Keeping Bees.

A. C. FASSETT.

I obtained my first 2 colonies of bees in the spring of 1880, in the Clarke, straw-lined hive. During that season I divided them into 5 colonies and secured a little honey. During the next winter I left them on the summer stands, and the next spring there was not a live bee left. I think that they froze to death. I had already made up my mind to keep some bees anyway, so I bought 2 new colonies; I had no loss during the next winter, and in the spring of 1882 I again made 5 colonies from the 2, obtained about 150 lbs. of honey, and wintered them with no loss during the next winter. In the spring of 1883, Mr. T. F. Bingham gave me a copy of the BEE JOURNAL, and I read something about comb foundation and the benefits to be derived from its use. So I procured a smoker and some foundation, and sent for the BEE JOURNAL and Cook's Manual. During the season of 1883 I increased my 5 colonies to 19 and got about 250 lbs. of comb honey. In the fall I put 9 colonies in the cellar and packed 10 outside. I lost 2 in wintering—one starved outdoors and the mice destroyed one in the cellar; 14 came through in good condition, and 3 were weak, so that it took all summer to build them up.

Last season I discarded my old hive for a new kind, used foundation starters in the brood-frames and sections, and took over 1,000 pounds of comb honey, nearly all of it being in one-pound sections. At present, I have 55 colonies in winter quarters, and sold 3. The increase was made by natural swarming. All seem to be in good condition at present. I fed about 175 lbs. of granulated sugar. I would feed all that was required, at one time in the fall, in a dripping pan put under the frames, with a perforated wooden float over the syrup. I have 15 colonies packed outside, and 40 in the cellar. My cellar has a pipe connected with the pipe of the stove in the room above. It seems to be a good ventilator. I keep my bees in a yard about 60 feet square with a tight board fence around it 7 feet high. My bees are nearly all Italians. I expect to have them all Italianized next season.

My hive is something like Mr. Doolittle's—simply a box 10¼ inches high and 14¼x18 inches, inside measure, and holding 10 frames with ⅜-inch space at the bottom and top of the frames, under the section-rack. It has a ⅜-inch rabbet cut at the top and bottom, so that I can tier them up if I wish to do so. The hive has a ⅜-inch groove cut out on the inside of the end-boards, 2 inches from each side of the hive, for division-boards for wintering. The entrance is a **V**-shaped opening cut in the bottom-board, and is opened and closed by sliding the hive forward and backward.

Watson, ♀ Mich., Feb. 9, 1885.

For the American Bee Journal.

Northeastern Michigan Convention.

The Northeastern Michigan Bee-Keepers' Association held its third annual convention on Feb. 4, 1885, at Vassar, Mich.

DIFFERENT VARIETIES OF BEES.

C. E. Rulison: The Cyprians and Syrians are good honey-gatherers, but too irritable. The Syrians are inclined to swarm, but this I have controlled by spreading the brood and giving plenty of surplus room. I object to the Syrians, because they fill the cells so full of honey and cap it so thinly as to give the honey a watery appearance. For the production of extracted honey I prefer Italians, but if nice, white, straight comb is wanted in sections, then have black bees or a cross between them and the Italians.

M. D. York: For the production of comb honey I prefer a cross between the Italians and blacks; if compelled to use a pure race for this purpose, I should choose the blacks. For extracted honey, I prefer Italians.

C. E. Rulison and the Secretary agreed with Mr. York.

WINTERING BEES.

C. E. Rulison: I have removed the honey and pollen, late in the season, by taking away the combs of honey, and substituting dry, empty combs, and then furnishing the bees with food by laying soft candy over the combs and covering it up so the bees could cluster upon it. The bees wintered well with no other food. Cut loaf-sugar used in place of the soft candy was a failure. I believe that sugar syrup is the best winter food, but some attention must be paid to ventilation.

Byron Walker: I had bees die with diarrhea in hives whose ventilation was so good that the chaff covering was perfectly dry; and I have bought bees in another locality, and the hives were so little ventilated that the chaff covering was wet and decayed. I think that the cause of bee-diarrhea is in the food. My losses are greatest when the bees have late-gathered stores.

C. E. Rulison: I think that the wintering question turns upon food and ventilation. A colony never perishes unless the inside of the hive, the combs and bees become damp.

R. L. Taylor: I look upon dampness as a symptom rather than a cause of disease.

W. Z. Hutchinson: If ventilation is so important, I cannot understand how the bees wintered so well when Prof. Cook poured water over the hives and allowed it to freeze; or when buried in the earth, or in a tight-plastered cellar where there was so little ventilation that the combs were blue with mold.

M. D. York: I do not think that snow ever closes the hive sufficiently tight to smother bees. The warm air issuing from the entrance often melts the snow around it, thus forming a miniature cave in the snow in front of the hive.

N. Van Patten: Is it not pollen that causes bee-diarrhea?

R. L. Taylor: At the Michigan State convention, Dr. A. B. Mason said that he had experimented until he knew that pollen was the cause of bee-diarrhea.

Byron Walker: I do not believe in the pollen theory; my losses are caused by fall honey, and not by pollen.

R. L. Taylor: Bee-diarrhea is caused by the consumption of such food as leaves a large amount of residue after digestion, and it matters not whether the pollen is eaten in "solid chunks" or is floating in the honey.

QUEEN-EXCLUDING HONEY-BOARDS.

C. E. Rulison: I have used wooden queen-excluding honey-boards, similar to those used by Mr. Hutchinson, and when placed over an old established colony, the bees were slow in beginning work above in the sections, and I was obliged to remove the honey-boards. When placed at the sides of the brood-nest, the bees passed through quite readily, as they also did when placed over a brood-nest when working for extracted honey.

W. Z. Hutchinson: In a colony in which the brood-nest is established, I have no use for a queen-excluding honey-board when producing comb honey; but when working for extracted honey, or when honey-boxes are placed over a newly hived swarm having no combs in the brood-nest, I want a queen-excluding honey-board.

Byron Walker exhibited and explained his combined case and shipping crate; he thought that the slats in the bottom upon which the sections rest, answered the purpose of a honey-board.

R. L. Taylor: My objection to this arrangement would be that the brace-combs attached to the bottom-bars of the first case would come in contact with the tops of the sections in the second case added in "tiering up."

M. D. York: Another objection to sending honey to market in this case in which it is stored, is that it cannot be graded nor cleaned.

Byron Walker: I have not been troubled much with brace-combs in my apiary, and, with a scraper I can easily scrape off all pieces of comb and propolis.

REVERSIBLE FRAMES.

Byron Walker: I have for 10 years used the hanging frames and the closed end frames. I prefer the latter, and they can easily be made reversible. My experience with reversible frames has been limited but favorable.

C. E. Rulison: I have used them quite extensively for 2 years, and am decidedly in favor of them.

ALSIKE CLOVER.

In the spring of 1883, Mr. M. D. York sowed 12 lbs. of alsike clover seed on 3 acres of land that had been sowed to winter wheat in the preceding autumn; two-thirds of the ground was a low, sandy loam, but underdrained; the remainder, a heavy clay. In the fall the upland was well fertilized. Knowing that if once the seed-stalks were allowed to form, no more would be formed if those were removed, and wishing to retard the bloom until after basswood, on May 1, 1884, he turned 5 cows and 3 hogs into the clover; on May 24, 2 horses were turned into the field; on June 10, 40 sheep were added, and on June 15 all of the stock was taken from the field. On July 8 the clover was about 4 inches high when it commenced to bloom; on July 15, at a distance of 40 rods, it looked like a field of snow, and the aroma could be easily detected that distance. Bees began to work on it with the first blossoms, and continued until about Aug. 1, and during 2 weeks of the time the field was roaring with bees, twenty colonies stored 400 lbs. of surplus comb honey, in sections, from the alsike. By the last of Aug. the alsike was about 1 foot high, and was cut for seed. In curing it was treated similar to hay. It yielded seed at the rate of 3 bushels per acre. When the stock was turned out of the alsike they were turned into a field of red clover, and in 3 days the 5 cows had "shrunk their milk" 9 quarts to the milking. Again in Oct. there was quite a growth of leaves upon the ground, and the cows were turned in, when he was agreeably surprised to see, within a week, a gain of milk at the rate of 10 quarts to the milking.

W. Z. Hutchinson: I cut 10 acres of alsike just as it was coming into bloom, and it did not start again, but the weather was very dry.

C. E. Rulison: I once visited a bee-keeper and my horses were given their choice between alsike chaff and good timothy hay, and they chose the former.

M. D. York: My stock prefer the chaff to other fodder.

G. A. French: I had ½ acre of alsike, in which some calves were allowed to run, and I cut some of it each day to feed the horses, and it continued to blossom, even where cut, until about July 1.

M. D. York: All of the seed-stalks are not of the same age, and if the first ones are cut off before the younger ones are up large enough to be cut off, the latter will, of course, make a good growth.

CLIPPING THE QUEEN'S WING.

C. E. Rulison: I am opposed to the practice. I lose queens by their getting into the grass. With a fountain pump there is little danger of losing bees.

M. D. York: I had rather lose a queen occasionally, than to lose bees and queen too.

C. E. Rulison: I am not so sure of that. When bees are thwarted in their swarming impulse, they become sulky and store but little honey, and often the honey harvest is past before they get things in shape to suit them, and they usually "get things in shape" by absconding with a virgin queen when no one is by to see them.

Wm. E. Harris: Near my apiary are tall trees, and it is difficult to get swarms down out of them. I have tried clipping the under wing of a queen, and found that she could fly when thus clipped.

C. E. Rulison: With proper appliances, I can take down swarms that are clustered 30 feet high. I can stop a swarm from issuing by throwing a wet sheet over the hive.

W. Z. Hutchinson: We have had more trouble with swarms having queens whose wings were clipped, than with those having queens with unclipped wings. A swarm without a queen wanders about a long time before returning, and when it does come back it sometimes enters the wrong hive or hives; or if it strikes the right hive, it sometimes clusters all over the outside of it, and only goes in after a long time. When a queen is given to a returning swarm, she sometimes comes out again, and the bees follow suit. If one is going to practice clipping, clip all of the laying queens; clipping part of them greatly complicates matters.

R. L. Taylor: I cage the queen and lay her in the shade until the bees return, enter the hive, and begin to show signs of uneasiness when she is given to them, and gives no trouble by coming out again. If a swarm attempts to enter the wrong hive, I throw a sheet over the hive.

M. D. York: Could not the queen be caged, and the bees be induced to cluster around her by elevating her upon a pole among the bees?

W. Z. Hutchinson: We have tried it, and the plan is not always a success.

APIARIAN EXHIBIT AT NEW ORLEANS.

R. L. Taylor, who had visited New Orleans, gave a brief description of the apiarian exhibits at the exposition. They number five: California, Wisconsin, Ohio, Iowa, and that of the general government.

California's exhibit was in the form of a pyramid 8x8 feet square at the base, and 10 feet high. It was on a table, and consisted of comb and extracted honey, fine beeswax and a colony of bees in an observatory hive. The extracted honey was shown in large glass vessels; the comb was in sections, and in large frames so arranged as to be easily divided.

The Wisconsin exhibit was arranged upon a table in a similar manner to the California exhibit, but the pyramid was not more than 4 feet high. The honey was mostly in one-pound sections. The whole exhibit was covered with glass.

The Ohio exhibit was about 8x8 feet square, six feet high, and consisted of both comb and extracted honey, and was surmounted by a wax figure. Implements were also shown. The State had also induced Dr. Besse to bring down 100 colonies of bees. The Doctor brought them with a view to see if it would pay to take bees South to winter. Excepting 10 colonies, the combs of which had been placed crosswise instead of parallel with the car, all came in good condition. The 10 colonies whose combs were crosswise of the car were dead.

The exhibit from Iowa was sent by O. Clute, and was not entirely arranged, but gave promise of being fine. It consisted largely of extracted honey, but there was a glass case filled with sections that were tastefully arranged.

The exhibit of the general government was large and varied, but the persons having it in charge did not understand making and caring for an apiarian exhibition. The comb honey had been removed from the shipping crates and exposed with no covering of glass, and had been considerably punched and fingered. Hives and implements were so shut up and covered up that it was impossible to examine them.

STIMULATIVE FEEDING.

R. L. Taylor had tried "feeding up" bees in the spring, and the result was that he "fed them down."

M. D. York: I have fed a thin sugar syrup after apple bloom, and it was a benefit.

KEROSENE OIL AND ROBBERS.

N. Van Patten had stopped a terrible robbing raid by driving out the robbers with smoke, closing the hives and then wetting them and their surroundings with kerosene oil. When quiet was restored, the entrances were slightly opened. The bees belonging to each hive clustered under the bottom-boards of their hives, and were brushed off and put into the hives.

The election of officers resulted as follows: President, R. L. Taylor; Vice-President, John Rey; Secretary, W. Z. Hutchinson; Treasurer, Byron Walker. The Convention adjourned to meet on the first Wednesday in Feb., 1886, at East Saginaw, Mich.

W. Z. Hutchinson, *Sec.*
R. L. Taylor, *Pres.*

For the American Bee Journal.

The Origin of Honey-Dew.

W. C. R. KEMP.

Some months ago I wrote an article for the Bee Journal on "Honey-Dew—what is it?" and in that article I attempted to show what honey-dew is, and whence produced. This called forth a half dozen or more articles from as many different correspondents, and but one or two—notably, Chas. Dadant, of Illinois—agreeing with my theory; and in a recent number of the Bee Journal, Mr. J. M. Hicks comes to my assistance. I now desire to more fully state my position on this subject.

The preponderance of testimony from those who have written concerning this subject, favors the production of this substance by bark and plant lice. No one questions the fact that trees and plants are infested, to a greater or less degree, by these insects, and nature has supplied them with necessary subsistence, and this substance, which is termed honey-dew, must have a producing agent, or a source from which it comes.

Prof. Cook, before some bee-keepers' convention, made the remark that it was "all *foolishness* to say that honey-dew rained down." That may be; but, is it not more *foolish* to say that *aphidæ* produce it, or secrete it in some mysterious manner?

That plant-lice live and thrive and multiply on it we all concede, and none deny. Let me ask, where does the saccharine properties of the juices of the sugar-tree, sugar-cane, the nectar in the flowers, and the sweets contained in the various fruits, berries and vegetables, come from? Will Prof. Cook answer? Will the host of other bark-louse theorists answer? There are but 3 sources from which it can be derived, namely, earth, air and water. The component parts of these three elements combined, enter into the structure of every tree, plant and shrub in the world.

Take a shovelful of earth, or soil, from the richest part of your garden; burn it, digest it, analyze it, and not a particle of sugar will be found. Take a barrel of rain or spring water, boil it until it all evaporates, and then how much saccharine matter have you left? Then it it clear, that from neither of these two elements is nectar formed. Then we have but one left, namely, the atmosphere; and I shall not attempt to solve the problem as to *how* honey-dew is derived from the atmosphere, for nature has never yet unfolded the mysterious workings of her wonderful machinery to the knowledge of man. We know that grass grows and flowers bloom, but *how* they do this, we do no know.

It is known, to botanists at least, that the leaves of trees are the lungs through which they breathe. "Respiration in plants is analogous to respiration, or breathing, in animals. In both it is equally constant, and equally necessary, and in plants, it is performed principally by the leaves." "Respiration consists of the absorption of oxygen from the atmosphere, accompanied by the solution of carbonic acid." I take it, then, that the exhalation or saccharine properties of the abundance of bloom of all kinds, fills the atmosphere, and under certain influences and conditions, which we know not of, condenses and settles on trees, leaves and plants, and is absorbed by the leaves of trees which secrete sweet sap, and furnishes food for insects, etc. The conditions of the atmosphere required to convert these properties into sugar, may exist in the greenhouse as well as elsewhere, and accounts for its appearance there—if it does so appear.

Mr. Cogswell says, on page 567 of the Bee Journal for 1884, that "the vapor which rises from the honey-cavity of flowers, or from uncapped combs in process of 'ripening,' is probably only a surplus of water with no sensible trace of sweetness about it." Did Mr. C. ever visit a sugar-camp when the sap of the sugar-tree was being boiled, and not smell it? Did he never smell the aroma from the coffee-pot on the stove, or the cabbage in the dinner-pot? Did he never inhale the fragrance of a full-blown rose? If not, his olfactories must be wonderfully deficient. That flowers and evaporating sweets do emit an odor, everybody knows. It is a law of nature that nothing is lost or destroyed. The steam from the engine, the vapor from the water, the smoke from the chimney, are lost to sight, but not destroyed. So it is with the aroma of flowers—only transformed into something else, and fitted to perform its part in the workings of Nature that it was intended it should do by the Creator.

Mr. Samsel, on page 616 of the Bee Journal for 1884, inadvertently contradicts himself, after affirming that he has positive proof that *aphidæ* do produce honey-dew, and cites a case from "Langstroth on the Honey-Bee," where somebody distinctly saw the *aphidæ* ejecting the fluid from their bodies. Of course; how could it have been ejected unless first taken into their bodies? Then, he says: "While we deny that honey-dew is formed by saccharine condensation, we do not pretend that it is produced by insects exclusively, but believe it possible that it may exude from the leaves of some plants and trees under favorable circumstances." I return thanks to Mr. S., after asking him to explain how it got *into* the "leaves of some plants and trees."

I may be permitted to state that after a more critical investigation into the nature and source of this substance called honey-dew, during the coming summer, I find that my theory is not fully substantiated by the facts and proofs, I will agree to take "bug juice" honey along with my white clover honey, biscuit and butter, and wash it down with milk from my Jersey cow.

Orleans, ♀ Ind.

Local Convention Directory.

Time and place of Meeting.

1885.

Mar. 3.—Southern Wisconsin, at Janesville, Wis.
J. T. Pomeroy, Sec., Edgerton, Wis.

Mar. 11.—New Jersey and Eastern, at N. Y. City.
W. B. Treadwell, Sec., 16 Thomas St., New York.

April 3.—N. E. Kansas, at Hiawatha, Kans.
L. C. Clark, Sec., Granada, Kans.

Apr. 9, 10.—Western, at St. Joseph, Mo.
C. M. Crandall, Sec., Independence, Mo.

Apr. 11.—Wabash County, at Wabash, Ind.
Henry Cripe, Sec., N. Manchester, Ind.

Apr. 25.—Union, at Earlham, Iowa.
M. E. Darby, Sec., Dexter, Iowa.

Apr. 28.—DesMoines County, at Burlington, Iowa.
Jno. Nau, Sec., Middleton, Iowa.

May 4.—Linwood, Wis., at Rock Elm Centre, Wis.
B. Thomson, Sec., Waverly, Wis.

May 7.—Progressive, at Bushnell, Ills.
J. G. Norton, Sec., Macomb, Ills.

May 28.—N. Mich. Picnic, near McBride, Mich.
F. A. Palmer, Sec., McBride, Mich.

June 19.—Willamette Valley, at La Fayette, Oreg.
E. J. Hadley, Sec.

Dec. 8—10.—Michigan State, at Detroit, Mich.
H. D. Cutting, Sec., Clinton, Mich.

☞ In order to have this table complete, Secretaries are requested to forward full particulars of time and place of future meetings.—Ed.

QUERIES

WITH

REPLIES by Prominent Apiarists.

Storing Comb Honey.

Query, No. 26.—How and where should comb honey be stored during the winter? Is it necessary that the temperature in the room in which it is kept, never goes below the freezing point? Can it be shipped safely in cold weather? My extracting combs have cracked badly. Is it necessary to keep them in a warm room, to prevent their cracking?—Nashotah, Wis.

W. Z. Hutchinson answers thus: "It should be stored in a dry, warm place. It is better if the temperature does not go below freezing. The liability to injury is greater if shipped in cold weather; but if the sections are small, well-filled and well-packed, they will usually bear shipment. It is not always necessary to keep honey in a warm room to prevent its cracking."

J. E. Pond, Jr., says: "Comb honey should be stored in a dry, warm room, not necessarily very warm, but certainly very dry. I find no trouble from its cracking where the temperature is kept above the freezing point. It can be safely shipped in cold weather, if extreme care is taken in packing it so that it cannot be jarred. The combs which are cracked badly I should put in a warm room, and allow them to remain until they could be repaired by the bees."

Messrs. Dadant & Son answer thus: "Your extracting combs won't crack if they are not handled in cold weather, or if any crack, it will be so slight that the bees will repair them promptly. It is the handling that breaks them, not the cold."

G. M. Doolittle replies as follows: "All honey in the comb should be stored in a warm room if it is to be sold. If not, the cracking of the comb by freezing does no material damage, for the bees will fix it up during the next season, so it cannot be told where the cracks were."

H. R. Boardman remarks thus: "It is necessary to keep comb honey in a warm room, not only to keep the combs from cracking, but also to prevent the honey from granulating."

Prof. A. J. Cook answers thus: "A warm room is best, but we have stored many combs, (we always extract the honey in the fall), in a cold room for years, and have had no trouble. They should be handled very carefully, if at all, in cold weather. Winter is a bad time to ship comb honey."

Dr. C. C. Miller replies as follows: "Store comb honey in a dry room, safe from freezing, taking special care that no air comes from a warmer room into the one where the honey is kept. It can be shipped a short distance in winter, if kept very warm for 24 or 48 hours before shipping. Extracting combs can be kept in the cellar if not mouldy or 'mousy.'"

James Heddon says: "Comb honey gathered in many locations will candy solid in the comb if exposed to a low temperature. Keep your comb honey in a warm place and it will not candy, nor will the combs crack. The same is true of the cracking of empty combs. Comb honey may be kept in a dry basement-room or cellar during cold weather. Look out for dampness when the outside temperature rises above that of the cellar."

Which way should Bee-Hives Front?

Query, No. 27.—All things being considered, which way should hives front, in order to obtain the most profit from the bees, east, north or south, where they are wintered on the summer stands? and which way when they are wintered in the cellar?—East Liverpool, O.

Dr. G. L. Tinker says: "South, southeast or east. It could make no difference in a winter repository."

W. Z. Hutchinson answers thus: "I have fronted bee-hives in every direction without discovering that it made any material difference which way they were fronted."

J. E. Pond, Jr., replies thus: "Speaking for my own locality, I prefer to have hives front as nearly south as possible, and easterly rather than westerly."

G. M. Doolittle replies as follows: "I prefer to have my hives front toward the south, no matter where wintered. I shall try a few again next season fronting north."

Prof. A. J. Cook answers as follows: "On the summer stands I would always have hives front east. In the cellar it makes no difference."

Messrs. Dadant & Son say: "By all means front your hives south, southeast or southwest. Some will tell you to front them north, but these people have never tried it on a large scale, or else they have never tried both ways comparatively in the same location. We have tried it once willingly and twice by hazard, to our greatest sorrow, and this on not less than 20 hives at a time. North exposure is not so bad when used for summer only, as for wintering; but if you have to take your bees out of the cellar early, when they need all the sun, you will soon decide in favor of southern exposure. Due east or west will do better than north, but not so well as south."

James Heddon replies thus: "East, in summer, and change to the south in winter, if left on the summer stands. I will have something to say regarding the 'why' of it, before the year passes."

G. W. Demaree answers thus: "For 6 years I have had two tenement hives containing 4 colonies each, in my apiary. The 4 entrances to each of these tenement hives, fairly represent 4 hives fronting north, east, south, and west; in the long run, I have seen no difference as to the yield of surplus honey from the 8 colonies."

DR. C. C. MILLER says: "I winter my bees in the cellar, and I have the hives, when out-doors, facing east. If it is more convenient, they may face south."

* * *

What Caused the Trouble?

Query, No. 28.—In 1883 I lost one colony of bees which died from starvation, with plenty of honey in the hive. It was simply an average one with an abundance of good clover honey at the time it was placed into winter quarters, and at the time of its death, Jan. 25, 1883, the bees and combs were very carefully examined in order to ascertain the cause. The hive and frames were in a most disagreeable condition, being covered with diarrhetic excreta. Drone brood was found in three frames, the centre one containing about five square inches of it. There was not one cell of worker brood in the hive, and not a queen to be found. I do not think that the absent queen had any thing to do with the cause of the so-called diarrhea. What caused the death of this one colony?—Manchester, Mich.

PROF. A. J. COOK says that "this is the common winter trouble. See answer to No. 24."

JAMES HEDDON answers thus: "It died of bee-diarrhea, and not starvation. What causes the disease, is still in dispute; no one knows positively."

J. E. POND, JR., replies as follows: "The answer to this question, like that to No. 24, would be extremely valuable if it could be given with positiveness. Diarrhea undoubtedly was the trouble; but what caused the diarrhea? Echo answers, 'what?' Tell us what, and we shall be able to winter our bees with a fair show of success."

G. M. DOOLITTLE answers as follows: "Brood-rearing resulting in pollen, in the form of chyme, being eaten by the bees which gave them the diarrhea."

W. Z. HUTCHINSON says that "colonies with fertile workers are more inclined to breed out of season than those with a queen."

DR. C. C. MILLER remarks thus: "Perhaps, after all, the absence of a good queen had something to do with the uneasiness and disease. According to Heddon, its death was caused by pollen; according to Clarke, by non-hibernation; or perhaps it was diarrhea."

DR. G. L. TINKER answers thus: "I think that early, winter brood-rearing was the cause of the trouble."

* * *

Fastening Foundation in Frames.

Query, No. 29.—What is the best way of fastening foundation in frames? Also, what is the best method of wiring them?—Marion, Iowa.

JAMES HEDDON replies as follows: "I work it thus: After the frames are made up (being previously bored), I sew the wire in the frames. First, slip an end-bar loosely into the center of the frame, to prevent bowing or springing the top and bottom bars, while wiring. Commence near the middle of the frame, and sew both ways, to prevent so much drawing of wire; when it is done, the end-bar is removed and each end is wound around the head of the nail (purposely left out a little) that nails the bottom-bar fast, when it is driven to its place. To fasten the foundation to the frame and wires, I bend the sheet up about 3-16, and rub this 3-16 fast to the top-bar by placing a form behind it and rubbing it with a wooden tool, similar to a shoemaker's 'shoulder-stick,' only with a bevelled shoulder to keep the hand from getting in contact with the sheet of foundation. This method mashes the wax fast to the wood very quickly. Mr. W. H. Shirley first used this plan. I then imbed the wires into the sheet of foundation by the use of a wire-imbedder, the frame laying over a form such as has heretofore been described."

DR. C. C. MILLER answers thus: "Probably no way of fastening foundation in frames is nearly so good as wiring. I have had good success in wiring frames by driving through the top and bottom-bars, wire nails of such length as to project through ⅜ of an inch, then with a pair of round-nosed pliers, bending the nails into the form of a hook, and stringing the wire upon these hooks."

J. E. POND, JR., remarks as follows: "I find the best way of fastening foundation in frames without wires, is to cut it about ¾ of an inch shorter, and ¼ of an inch narrower, than the length and width of the frame; then take a piece of very thin deal the length of the frame inside and ¼ of an inch wide, and after laying the foundation on the top-bar, tack the deal through it firmly so that the foundation will hang directly in the center. However, I would advise the use of wires in all cases. My plan of wiring, whether best or not, is to pierce the top and bottom-bars about ¾ of an inch from their ends, and then about 2 inches apart the rest of the distance, pass the wire through backward and forward, draw it tight and fasten it at the bottom."

MESSRS. DADANT & SON reply thus: "To fasten foundation in brood frames, we use a knife and rub the foundation with it until it makes a body with the wood. We use a lath to guide the knife. This manner is very expeditious, and when the operator is an expert, it does better work than any other way that we know of. For wiring, we are strongly opposed to using as many wires as some do. In a Langstroth frame we use two or three wires horizontally, and these are more to keep the foundation from warping than to keep it from breaking. To imbed the wire into the foundation, we have never seen a better instrument than Vandervort's. It is made like the Carlin foundation cutter, only it has teeth set like a saw and runs over the wire. Ruland's wiring tool is also good for the purpose."

PROF. A. J. COOK answers thus: "By wiring the frames; the method of wiring them is explained in all the late works on bee-culture."

W. Z. HUTCHINSON replies as follows: "Have the edge of the foundation warm, and press it upon the comb-guide in about the same manner as foundation is fastened into sections with the Parker fastener. A putty knife can be used, or a large machine can be constructed upon about the same principle as the Parker fastener. To wire frames, have the top and bottom bars pierced; commence in the middle of the frame, and work towards the ends, having the ends of the wire come at the ends of the frame."

DR. G. L. TINKER says: "My method has been, where the top-bar is flat beneath, to use melted wax with a short camel's-hair brush and apply the wax to both sides. If the top-bar is V-shaped or has a supporting thin strip, I prefer to use a heated knife."

* * *

What Ails the Bees?

Query, No. 30.—What is the trouble with my bees? I first discovered dead brood in one hive in February, 1884, and by April 1, I found that all of my hives had dead brood in them. I could find a few cells with brown mucus, and sometimes small holes in the caps. The bees swarmed rapidly, and the swarms were large. Swarms put in new hives on foundation would soon fill up, and have plenty of brood, and some would be dead, whilst others would be hatching. I could invariably find that all the dead brood had a deposit sticking to them, especially on the legs, resembling rust. Sometimes they would hatch with this rust on them, and be very weak, hardly able to crawl, and with crimped or defective wings; others were exceedingly small, very little brown mucus to be seen, and if a colony was rendered queenless, they would be almost certain to clean out all the dead brood before they would have another laying queen. I am satisfied that the same derangement is quite extensive in this State. I do not think that I have ever lost a colony from that cause. If I only had a few colonies, I would expect soon to have them all right by using salicylic acid, as directed by Mr. Muth. I have experimented enough to have confidence in it, but with 150 colonies all affected, and all the bees in this section of country in the same condition, I desire a more convenient remedy.—Birdville, Tex.

DR. C. C. MILLER says: "If it is foul brood, here is a good chance to try Frank Cheshire's phenol treatment."

J. E. POND, JR., replies as follows: "The indications are that the trouble is foul brood; still the symptoms given are not precisely in all respects like those of that disease. It would require an examination on my part to enable me to give a positive diagnosis. If the bees were mine, with only my present knowledge of them, I should use the method and remedy found so successful by Mr. Frank Cheshire, of England, an account of which has been lately published in the BEE JOURNAL."

H. R. BOARDMAN remarks thus: "The question is well answered in part in the asking. The 6 heaviest colonies have the diarrhea, because they have commenced rearing brood under unfavorable conditions; while the rest do not have it because they have not commenced breeding. My remedy is to put the colonies affected into a room provided with a stove and made perfectly dark. The hives are raised from the bottom and the covers removed, thus giving a free circulation of air directly through the hives. Then raise the temperature to 60° or 65°, and continue it for several hours. This will give temporary relief, and may be repeated at intervals of 2 or 3 days."

Dr. G. L. Tinker says: "I never saw a case of foul brood, but I should judge it to be that from the description given. I believe that Mr, Frank Cheshire's method of treating it with phenol will be found superior to all others, He has pointed out the cause of failure where failure has occurred, and that seems to be the infection of the queen. The remedy is manifest; give the colony a healthy queen, and go on with the treatment. There is every reason to believe that where phenol is properly used, all infection of other colonies will cease."

Remedy for Destroying Plant-Lice.

Query, No. 31.—What can I put on my plum-trees to destroy a small, green louse that comes when the tree is in full bloom and as the leaves start to grow? It gets on the under side of the leaves and the leaves curl up, and the bloom turns yellow and falls off. I can do nothing for them. I would like some remedy that will not injure my bees while working on the bloom.—R. P. W.

Prof. A. J. Cook answers as follows: "After many experiments, I find no application that serves so effectively to destroy plant-lice as the kerosene and soap mixture. This is made as follows: A quart of soft soap (hard soap will do) is dissolved in a gallon of water, and all heated to the boiling point; while yet hot a pint of kerosene is thoroughly stirred in. This is sprayed on the affected trees, and destroys the lice thoroughly. If it is feared that it will prevent the bees' working, its use may be deferred until the blossoms fall."

Convention Notices.

☞ The next meeting of the Union Bee-Keepers' Association of Western Iowa, will be held on April 25, 1885, at Earlham, Iowa.

M. E. Darby, *Sec.*

☞ The Progressive Bee-Keepers' Association of Western Illinois will meet in Bushnell, Ills., on Thursday, May 7, 1885. Let every bee-keeper who can, be present and enjoy the meeting. J. G. Norton, *Sec.*

☞ The New Jersey and Eastern Bee-Keepers' Association will hold their next annual convention at Cooper Union, in New York City, beginning on Wednesday, March 11, 1885, and to continue two days or more. The committee promise a good programme,and extend a cordial invitation to all. W. B. Treadwell, Ass't. Sec.

☞ The Willamette Valley Bee-Keepers' Association will hold its second meeting at La Fayette, Oregon, on the third Tuesday in June, 1885. All who are interested are invited to attend.

E. J. Hadley, *Sec.*

Special Notices.

☞ We often get a number of notices and advertisements on Mondays, intended for the next Bee Journal. As we close the forms on Saturdays, all such notices *must be here* on Saturday morning, or cannot appear until the following week.

☞ Our rates for two or more copies of the book, "Bees and Honey," may be found on the Book List on the second page of this paper. Also wholesale rates on all books where they are purchased "to sell again."

☞ For two subscribers for the Weekly Bee Journal (or 8 for the Monthly) for one year, we will present a Pocket Dictionary, and send it by mail postpaid.

Advertisements.

Albino and Italian QUEENS at Reduced Rates!

THOSE desiring to secure **Pure Albino Queens,** will best accomplish their object by purchasing of the original producer of this valuable and beautiful race of Bees. For Circulars, address,

D. A. PIKE,
9C2t4B1t SMITHSBURG, Wash Co., MD.

$200,000 *in presents given away.* Send us 5 cents postage, and by mail you will get *free* a package of goods of large value, that will start you in work that will at once bring you in money faster than anything else in America. All about the $200,000 in presents with each box. Agents wanted everywhere, of either sex, of all ages, for all the time, or spare time only, to work for us at their own homes. Fortunes for all workers absolutely assured. Don't delay. H. HALLETT & Co.
51A1y Portland, Maine.

LARGE stock of STRAWBERRY and RASPBERRY PLANTS. New and standard varieties. Send Postal for Price-List with colored Plate of new Parry Strawberry.

McCLINTOCK BROS.,
9A1t RAVENNA, OHIO.

Bee-Hives and Supplies.

WE HAVE remodeled our machinery and can fill orders on short notice. If wanted, **Odd Sizes** made; send order now, before the rush comes. We have a large stock on hands. Price List free.

B. J. MILLER & CO.
1D6t NAPPANEE, Elkhart Co., Ind.

HELP for working people. Send 10 cents postage, and we will mail you *free*, a royal, valuable sample box of goods that will put you in the way of making more money in a few days than you ever thought possible at any business. Capital not required. You can live at home and work in spare time only, or all the time. All of both sexes, of all ages, grandly successful. 50 cents to $5 easily earned every evening. That all who want work may test the business, we make this unparalleled offer: To all who are not well satisfied we will send $1 to pay for the trouble of writing us. Full particulars, directions, etc., sent free. Immense pay absolutely sure for all who start at once. Don't delay. Address Stinson & Co.
51A1y Portland, Maine.

GEO. GRIMM, of Jefferson, Wis.,
Will sell **300 to 400**

COLONIES OF BEES

In the **8-Frame Langstroth Hive**
at the following prices:

Pure Italians,	1 to 5	$6 50
" "	5 to 20	6 00
" "	20 or more	5 75
Hybrid Italians,	1 to 5	5 75
" "	5 to 20	5 25
" "	20 or more	5 00

TERMS and Conditions as follows: Orders will be booked only when accompanied by the **Cash,** and will be filled in their proper turn. I will ship some time in the month of May, and the exact date must be left in my discretion to be governed by the circumstances and the weather. Will notify before shipment. Will **Guarantee Safe Arrival** at last Express Station, and will guarantee satisfaction. 9D4t

Choice Comb Foundation

I WISH to say to my numerous friends that I will use, the coming season, a new Vandervort Machine of the latest make, and will send out only the finest work; also Dunham heavy. Send for samples and Circular.

J. V. CALDWELL,
9Atf CAMBRIDGE, ILL.

500 Names wanted for my 18-page Illustrated Catalogue of **Bee-Keepers' Supplies** for 1885. Send for it! I can SAVE you money. HENRY CRIPE, N. Manchester, Ind.
9A1t

DUNHAM AND VANDERVORT FOUNDATION.

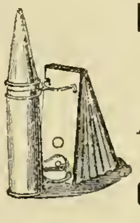
WE have bought a large stock of **Choice Yellow Beeswax,** and can furnish Dunham Comb Foundation for brood comb for **50c.** per lb. Thin Dunham for Sections, **55c.** per lb. Extra thin Vandervort, 10 to 12 square feet to the lb., **60c.** per lb. Will work up wax into Foundation for **10, 15 and 20c.** per lb. To induce our customers to order Foundation **early** in the season, we will allow **10** per cent. discount on all orders received before the 1st of May.

F. W. HOLMES,
9D9t COOPERSVILLE, Ottawa Co., MICH.

Dadant's Foundation Factory, wholesale and retail. See Advertisement in another column.

FREE. **SEND Address** and receive our wholesale list of 400 leading newspapers and magazines for 1885. Prices below the lowest. Catalogue of Bees, Queens, Small Fruit, Alsike Clover, etc., on application.

C. M. GOODSPEED,
2BC2m THORN HILL, N. Y.



Bee-keepers' Supplies,
Standard Langstroth,
Quinby Standing-Frame,
And all other kinds of **Hives,**
MADE TO ORDER,
Quinby Smoker a specialty.

I shall supply anything you need in the Apiary. Send for Illustrated Price List.

W. E. CLARK, successor to L. C. Root,
7A13t ORISKANY, Oneida County, N. Y.

BE SURE

To send a Postal Card for our Illustrated Catalogue of APIARIAN SUPPLIES before purchasing elsewhere. It contains Illustrations and descriptions of everything new and valuable needed in an apiary, at the lowest prices. Italian Queens and Bees. Parties intending to purchase Bees in lots of 10 colonies or more, are invited to correspond.

J. C. SAYLES,
1D15t 2B5t HARTFORD, WIS.

Bee-Keepers' Supplies.

WE have added to our LARGE FACTORY a **SPECIAL DEPARTMENT** for the

Manufacturing of Bee-Hives,

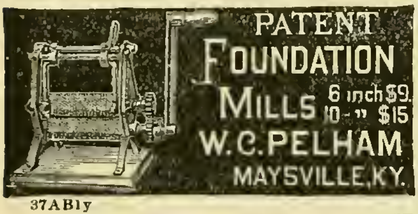
AND

White Poplar Dovetailed SECTIONS, Also, One and Two-piece SECTIONS.

☞ All Orders will be filled promptly at the **LOWEST FIGURES,**

Send Stamp for Catalogue and Samples.

The H. F. MOELLER M'f'g Co.
1A26t DAVENPORT, IOWA.


PATENT FOUNDATION MILLS 6 inch $9. 10-" $15
W. C. PELHAM
MAYSVILLE, KY.

37AB1y

The VICTOR HIVE

REVISED PRICES—IN THE FLAT.

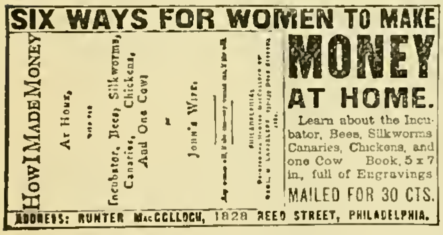
DOUBLE-WALLED or CHAFF HIVES 5 in one lot, each, **$3.50**; 10, each, **$3 40**; 25, each, **$3.25**; 100, each, **$3.00**.

SINGLE-WALLED HIVES, 5 in one lot, each, **$2.50**; 10, each, **$2.40**; 25, each, **$2.25**; 100, each, **$2.60**.

EACH HIVE has Gable Roof, 2 Section Cases, 10 Langstroth Brood Frames, and is complete except Sections or Extracting Frames, which are interchangeable, and may be used in separate cases on the same hive. For two sets of either, add **25** cts. to the figures. Hives with the Victor Frames **10** cts. less.

We now make the Victor Sections as follows: White Pine, dovetailed, 1 or 2 lbs., per 1,000, **$6.00**. Extra choice White Poplar, same, **$7.00**. We have new and **original** Machinery, and warrant our work to be unexcelled. Send for Catalogue.

Address, **DR. G. L. TINKER,**
1Atf **New Philadelphia, O.**


How I Made Money
At Home,
Incubator, Bees, Silkworms, Canaries, Chickens, And One Cow!
John's Wife

SIX WAYS FOR WOMEN TO MAKE MONEY AT HOME.

Learn about the Incubator, Bees, Silkworms Canaries, Chickens, and one Cow Book, 5 x 7 in., full of Engravings

MAILED FOR 30 CTS.

ADDRESS: HUNTER MACCULLOCH, 1828 REED STREET, PHILADELPHIA.

APIARIAN SUPPLIES---1885.

ALL-IN-ONE-PIECE SECTIONS, Langstroth Hives, Section Cases, Shipping Crates, Brood Frames, Foundation, Smokers, and all other Supplies needed in the apiary. **ITALIAN BEES & QUEENS** in season. Send for Price-List. Address,
8C6t L. L. TRIEM, La Porte City, Iowa.

Dadant's Foundation Factory, wholesale and retail. See Advertisement in another column.

YES, WHY NOT?

SEND me your address on a postal and receive a description of **My Improved Hook** for bottom-boards of bee-hives.

CHEAP! SIMPLE! EFFECTIVE!

Pronounced the **"best thing out."** Sample hook for a two-cent stamp. No room to say more. Write to

HOWARD U. ACKERMAN.
1ABtf NORTH INDIANAPOLIS, IND.

Six Apiaries. All interested in **Bees** or **Honey** should send for our **1000 colonies of Bees for sale.**

Price List and **Catalogue** of **Bees, Queens,** and **Apiarian Implements.** *Safe Delivery guaranteed.* **FLANAGAN & ILLINSKI,**
Lock Box 995, **Belleville,** *St.Clair Co.,* **Ills.**
1AB1y

"BOSS" ONE-PIECE SECTIONS.

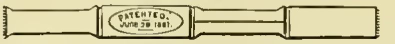
READ THIS.

A word of explanation in regard to the infringement suit on the One-Piece Section, we deem necessary at this time.

I commenced suit against A. I. Root, in the United States Circuit Court, for the Northern district of Ohio; Stanley Matthews presiding. He decided that the patent was ANTICIPATED. I have taken an appeal to the United States Supreme Court at Washington, which will decide the case, and its decision will be final. If it goes against me I will submit, but if decided in my favor, I shall expect all who have infringed will pay me damages from date of the patent.

Some unprincipled parties are advertising that the Courts have decided that the patent is void. This is not the case, as it is before the United States Supreme Court at Washington, at the present time. When that Court gives its opinion it will be final, and until it does, any one infringing will be liable for damages, if the United States Supreme Court sustains the patent.

PRICES OF SECTIONS.



One-lb. Sections in lots of		500 to 4,000	$5.00
Ditto	Ditto	5,000 to 10,000	4.75
Ditto	Ditto	10,000 to 25,000	4.50
Ditto	Ditto	25,000 to 50,000	4.25
Ditto	Ditto	100,000 or more	4.00

The one-lb. Section is 17 inches long. For any sizes between 17 and 20 inches in length, add 5 per cent. For any sizes between 20 and 24 inches, add 10 per cent. Add the above per centage to the price of one-lb. Sections in the same quantity.

J. FORNCROOK & CO.,
1Ctf Watertown, Wis., Dec. 1, 1884.

☞ Alfred H. Newman, of Chicago, sells the one-piece Sections manufactured by us.

Given's Foundation Press.

THE GIVEN PRESS stands in the **front rank** for manufacturing **FOUNDATION in Wired Frames,** as well as foundation for **SECTIONS.** Without a dissenting voice, all of our customers affirm its superiority.

Send for Circulars and Samples.

D. S. GIVEN & CO.,
1ABtf HOOPESTON, Vermillion Co., Ills.

W. Z. HUTCHINSON,

Rogersville, Genesee Co., Mich.,

can furnish just as neat, white, smooth and perfect, dovetailed, white poplar sections as there are made. Send for sample and prices.
4Dtf

Vandervort Comb Fdn. Mills,

Send for Samples & Reduced Price-List.
ABtf **J. VANDERVORT, Laceyville, Pa.**

1885 ITALIAN QUEENS 1885

6 WARRANTED QUEENS FOR $5. Write for Circular. **J. T. WILSON,**
1BC4t,ea NICHOLASVILLE, KY.

(ESTABLISHED 1864.)

BEE-SUPPLIES.

We furnish EVERYTHING needed in the Apiary, of practical construction, and at the **lowest price.** Satisfaction guaranteed. Send your address on a Postal card, and we will send you our Illustrated Catalogue free. **E. KRETCHMER,**
2C12t COBURG, IOWA.

REVERSIBLE-FRAME HIVES, WHITE POPLAR and Basswood SECTIONS. Send for Circular.
O. J. HETHERINGTON,
5C3t **East Saginaw, Mich.**

MISSOURI.

THE ONLY MANUFACTURERS IN MISSOURI, of Apiarian Implements. Send for Circular and Price List of our Hive with the **Reversible** Surplus-arrangement for comb honey. Also **Smokers, Comb Foundation, Italian Queens, etc.**

KENNEDY & LEAHY,
P. O. Box 11. HIGGINSVILLE,
5C2t Lafayette Co., Mo.

Friends, if you are in any way interested in

BEES OR HONEY

We will with pleasure send a sample copy of the **Semi-Monthly Gleanings in Bee-Culture,** with a descriptive price-list of the latest improvements in **Hives, Honey Extractors, Comb Foundation, Section Honey Boxes,** all books and journals, and everything pertaining to Bee Culture. *Nothing Patented.* Simply send your address *written plainly,* to

Ctf A. I. ROOT, Medina, O.

SOMETHING NEW!

THE Best-Made, handiest and cheapest combination,

Summer and Winter Hive

in the market. Send for Catalogue of general **APIARIAN SUPPLIES.** The best white poplar **SECTIONS** and pure yellow beeswax. **COMB FOUNDATION** a specialty.

Full Colonies, Nuclei Colonies and

QUEENS for SALE.

Be sure to send for 25th Annual Price List, before making your purchases for 1885.

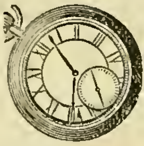
Address **WM. W. CARY, Jr.**
COLERAINE, MASS.
3Dtf Successor to Wm. W. Cary & Son.

Muth's Honey Extractor,

Square Glass Honey Jars, Tin Buckets, Langstroth Bee-Hives, Honey-Sections, etc.

Apply to **C. F. MUTH,**
976 and 978 Central Ave., **CINCINNATI, O.**

☞ Send 10c. for Practical Hints to Bee-Keepers.



We will send you a watch or a chain **BY MAIL OR EXPRESS,** C. O. D., to be examined before paying any money and if not satisfactory, returned at our expense. We manufacture all our watches and save you 30 per cent. Catalogue of 250 styles free. Every Watch Warranted. Address

STANDARD AMERICAN WATCH CO.,
PITTSBURGH, PA.

46A26t

The Bee-Keepers' Supply Company,

Of New Comerstown, Ohio.

THE above company has been incorporated under the laws of the State of Ohio, with a Capital Stock of $30,000, with A. M. Beers, W. R. Shields, A. E. Munn. R. L. Shoemaker, and S. F. Timmons as incorporators. The stock of said company will be divided into 1,500 shares of 20 dollars each. Books will be open for subscription to the above stock, on Monday, Feb. 23, 1885, at New Comerstown, Ohio. Ten per cent. of stock subscribed payable at time of subscription; twenty per cent. payable monthly thereafter, provided that all stock must be paid in full by September 15, 1885. Provided, further, that full payment of stock subscribed may be made at any time before due. Remittance for stock duly acknowledged and certificate of same issued when paid in full. Remit by Express, N. Y. Exchange, Registered Letter, or P. O. Money Order. Address all communications to the above Company.

The Oldest and Largest establishment in the United States making a Specialty of Mail Orders.

JOB PRINTING, POST-PAID BY MAIL.

Letter Heads, Bill Heads, Envelopes and Business Cards, **35** cents per **100,** 500 for $1.50. All kinds of Job Printing neatly executed. Send stamp for samples. Our paper, **Boys and Girls,** 25c. a year. Send for Sample Copy. **R. M. RULISON,**
2C3t FLUSHING, MICH.

WEEKLY EDITION
OF THE
AMERICAN
ESTABLISHED IN 1861
OLDEST BEE PAPER IN AMERICA
BEE JOURNAL
PUBLISHED BY
THOMAS G. NEWMAN,
EDITOR AND PROPRIETOR,
925 WEST MADISON-STREET, CHICAGO, ILL.
Weekly, $2 a year ; Monthly, 50 cents.

Vol. XXI. March 11, 1885. No. 10.

☞ We have received a very neat programme for the New Jersey and Eastern Bee-Keepers' Convention, to be held in room 28 of the Cooper Institute, New York, on March 11 and 12.

☞ Mr. W. B. Stephens, of Stephens' Mills, N. Y., has sent us another device for reversible frames. It consists of a bent wire staple to slip into holes in the top and bottom bars, which must be alike provided with them.

☞ Notwithstanding our repeated cautions concerning the sending of newspapers, models, etc., by mail, and enclosing a letter with such, we often receive them. On all such *we have to pay letter rates.* Send your letter separately ; and to mark the article in a paper with a line (either in ink or pencil) is quite sufficient. Put your name on the outside with "From" before it, on every package sent, and all will be well ; but *never* enclose a letter with a model or in a newspaper.

☞ We are pained to hear that our friend, Mr. Paul L. Viallon, met with a loss of $3,000 by fire on Feb. 28, immediately upon his return from the Bee-Keepers' Congress at New Orleans.

☞ A new pamphlet is on our desk, entitled, "How John's Wife made Money at Home with the Incubator, Bees, Silk-worms, Canaries, Chickens and one Cow." It is a very interesting pamphlet containing 80 pages, and is sold at 30 cents. Published by Hunter MacCulloch, 1828 Reed street, Philadelphia, Pa.

The International Congress.

The meeting of bee-keepers at New Orleans was a very pleasant one, and as 24 States were represented, it gave an excellent opportunity for apiarists to become acquainted with one another, as well as to converse upon the all-absorbing topic of bee-culture. The essays covered much of the debatable-ground of apiculture, and the discussions were in many cases quite interesting and entirely harmonious.

We give nearly all the space of this week's issue of the BEE JOURNAL to the Report, for we know our readers will want to "know all about it" while it is *fresh* in their minds.

We made many *new* acquaintances, and renewed several older ones, and think that all were well-pleased with the meeting.

☞ Mr. John Preston, of Georgetown, Mass., has sent us another device for reversible frames. It consists of a piece of wire attached to the ends of a frame, with the ends bent over to support the frame on the rabbets. The ends are bent so that when one stands out in a line with the top-bar, the other at the bottom of the frame is up close to the side-bar ; and when reversed, the wire is turned ¼ of the way around, and forms the "rest" for the frame at the reverse.

☞ "How to be your own Lawyer" is the title of a book on our desk from M. T. Richardson, 7 Warren Street, New York. It contains 500 pages, and is sold for $1.00. It is a useful book for every business man.

☞ Articles sent for publication in the BEE JOURNAL are so abundant that we have to crave the patience of our correspondents. We will publish all suitable articles as soon as possible. The fact that we have such an abundance (without solicitation) is very flattering to the BEE JOURNAL, especially when some of our contemporaries are complaining of a *dearth* of original matter.

☞ Messrs. Geo. W. Meade & Co., of San Francisco, Cal., have sent us their 10th Annual Review of California crops, including comb and extracted honey. They estimate the honey crop of California for 1884 at 9,000 000 of pounds. We will quote it in full next week.

Still Another Pioneer Gone.

Mr. R. M. Argo, another of the pioneers of apiculture, has passed from this state of existence. He died of congestive chills on Feb. 13, 1885, and was buried in the cemetery at Paint Lick, Ky.

It was rather a strange coincidence that Mr. Argo and Mr. Williamson, both prominent apiarists of Kentucky, died on the same day—Friday, Feb. 13—though residing some over 100 miles apart. Twenty years ago Mr. Argo wrote quite extensively for the BEE JOURNAL (then the only bee-paper published in the English language). He was a well-informed and successful apiarist, and breeder of Italian queens.

Mr. Argo was engaged in the saddle and harness business, and his store was swept away by fire on Jan. 2, 1885, and when he died he was just starting anew in a small room, intending to build another store this spring. The building was fully insured, and the insurance was paid. He had been deaf from childhood. His last letter to this office was written on Jan. 29. His end was *peace*.

☞ Fires seem to be quite frequent of late among supply dealers. Mr. J. M. Shuck, of Des Moines, Iowa, reports that his hive stock was burned up some time since, and has delayed his spring operations, but we have just received his elegant 24-paged catalogue stating that he is again prepared for business. His announcements may be found on another page.

☞ Mr. H. R. Boardman's answer to Query No. 30, on page 140, should have appeared on page 117, in reply to Query No. 23. The mistake occurred in our absence by mistaking Mr. B.'s figures.

Catalogues for 1885.—We have received the following :

Bright Bros., Mazeppa, Minn.
D. S. Given & Co., Hoopeston, Ill.
Sumner & Prime, Bristol, Vt.
Geo. F. Williams, New Philadelphia, O.
Joseph E. Shaver, North River, Va.
J. C. Newman & Son, Peoria, N. Y.
Bee-Keepers' Supply Co., New Comerstown, O.
Am. Manufacturing Co., New Carlisle, O.
J. M. Shuck, Des Moines, Iowa.
E. Kretchmer, Coburg, Iowa.
W. S. Cauthen, Pleasant Hill, S. C.
Henry Cripe, North Manchester, Ind.
G. W. McKallip, Hiawatha, Kans.
T. H. Kloer, Terre Haute, Ind.
E. H. Ricker & Co., Elgin, Ill.—Grapes.
E. B. Underhill, Poughkeepsie, N. Y.—Strawberry Plants.
F. E. Fassett & Co., Ashtabula, O.—Plants.
Lewis Roesch, Fredonia, N. Y.—Grape Vines
W E. Bowditch, 645 Warren St., Boston, Mass.—Seeds.

QUERIES

WITH

REPLIES by Prominent Apiarists.

Increasing Number of Colonies.

Query, No. 32.—What is the best way to increase 17 colonies of bees to 50 colonies, and also obtain a little surplus comb honey, providing the season is a good one?—Delaware City, Del.

W. Z. HUTCHINSON says: "Put boxes on all the hives. When a colony swarms, transfer the boxes to the swarm. Allow the old colony to cast after-swarms, but give no boxes to them nor to old colonies after they have swarmed."

DR. C. C. MILLER answers thus: "Generally every man's own way is his best way. One way is to form nuclei as early as bees will stand it, and have the earliest ones strong enough to yield some surplus."

G. M. DOOLITTLE replies as follows: "By natural swarming, hiving the first and second swarms, and by getting the 'little surplus' from the first or prime swarms."

PROF. A. J. COOK remarks thus: "I think by forming nuclei to secure queens, and then building up into strong colonies by adding brood. We cannot expect to get much comb honey in average years with such increase."

JAMES HEDDON answers as follows: "I prefer natural increase to any other, though I prefer none at all. If you fear they will not reach the desired number of colonies by natural swarming, you can follow any of the other plans of increase as laid down in the bee-books and bee-papers. Choose the one which you think best fitted to your special environments."

G. W. DEMAREE advises the following: "Rear some queens and have them ready when the swarming time comes. Let every colony swarm, that will swarm in time, and make up the deficit with swarms made by division, giving each a laying queen. Prevent after-swarms by destroying the queen-cells that caused the swarms, and give the parent colony a virgin queen from one to five days old."

J. E. POND, JR., says: "This question is a little vague and indefinite. We are not told whether the question of fancied economy is to be taken into consideration or not. I refer by this to the matter of rearing or purchasing queens. I deem it economy to buy them, and consider that the best way to increase would be to break up 2 or 3 of the colonies best supplied with brood, into nuclei; furnish them with laying queens and build them up, and thus continue till the desired amount of increase is obtained. I increased my colonies in this way last season, from 2 to 10, and produced over 800 pounds of honey, nearly all of which being gathered from goldenrod in 10 days in September."

DR. G. L. TINKER replies thus: "To increase colonies rapidly and get surplus at the same time, build them up strong in early spring; then those colonies which swarm, divide into nuclei with a queen-cell for each. Hive all swarms on 6 or 7 brood-frames; a queen-excluder and a case of sections to be adjusted to the hive previously or soon after."

CORRESPONDENCE.

Explanatory.—The figures BEFORE the names indicate the number of years that the person has kept bees. Those AFTER, show the number of colonies the writer had in the previous spring and fall, or fall and spring, as the time of the year may require.

This mark ⊙ indicates that the apiarist is located near the centre of the State named: ♁ north of the centre; ♀ south; ⊸ east; ⟜ west; and this ♂ northeast; ⊶ northwest; ⌕ southeast; and ⚲ southwest of the centre of the State mentioned.

For the American Bee Journal.

A Would-be Critic.

WM. F. CLARKE.

Mr. Jas. McNeill pays his respects to me on page 39 of the BEE JOURNAL, in a way that tempts, if it does not indeed demand reply. That I am "a would-be discoverer" is a charge which I shall neither attempt to palliate nor deny. It is what we all are, if we are worthy the name of bee-keepers.

> "'Twere better to have loved and lost
> Than never to have loved at all."

So it were better to have tried and failed, than never to have made an earnest attempt at discovery. The man who goes through a mechanical routine, never observing, never trying to find out something new, is a very unworthy and ignoble specimen of his kind.

In calmer moments, I have thought that it would have been "chust as weel," (to quote a Highland phrase) if I had announced my "assumed discovery" in a less excited manner; but Mr. McNeill probably knows from his own experience, that "great men are not always wise," and that all philosophers are not stoics. In this cold world, it is a good thing that a man can warm up once in awhile, and there are so many stolid people around us, that a little enthusiasm is needed now and then to give zest and variety to life. A far greater man than I pretend to be, once confessed, "I am become a fool in glorying." But as he was addressing friends and brethren, he put in his plea: "Yet as a fool receive me, that I may boast myself a little." Then with a keen stroke of irony and sarcasm, he added, "For ye suffer fools gladly, seeing ye yourselves are wise." Mr. McNeill can easily make the application of these quotations for and to himself. If I have erred, as probably I have, in being too greatly elated, I have done so in excellent company.

I am blamed for not having made "careful and prolonged experiments," with "observations tested and re-tested," before giving my theory to the apiarian world. What length of time would that have taken? Several years at least. Being in the neighborhood of threescore, life was too short with me to go through so tedious a process. Besides, the job could be done up "a great sight quicker" by asking my fellow bee-keepers to join with me in making the necessary experiments. Moreover, a large number of experiments and observations already made, seemed to point in the direction of my theory, as I have shown in my essay on "Wintering Bees," read before the Rochester Convention. Surely, I ought rather to be commended for giving all and sundry the benefit of my valuable discovery, as I thought and still think it, without delay, and without reserve. There is "nobody hurt" either by my enthusiasm or my precipitancy, even if my theory be incorrect; while if I am right, I deserve to rank among public benefactors, for promptly disseminating a good idea.

Mr. McNeill says that I have "furnished no demonstrable proof that bees really do hibernate;" yet he admits that I have cited "instances where quietness, small consumption of honey, and excellent condition of bees in the spring, would favor the opinion that the dormant state is the natural condition of bees in winter." This admission does not entirely square with the statement that I have furnished "*no* demonstrable proof" of hibernation. But the admission does not fairly state my case as I have presented it to the public. I have "furnished demonstrable proof" that, under favorable circumstances, bees relapse into a state of torpor or semi-torpor, quiescence, or dormancy, during winter in cold or temperate climates; also that small consumption of stores and excellent condition in spring are the results of their so doing. If this is not "demonstrable proof" that bees hibernate, I am at a loss to know what could be "furnished" as such. If Mr. McNeill can show that the dormant state is abnormal, and results disastrously, I will accept it as "demonstrable [*dis*]-proof" of the position that hibernation is the natural condition of bees in winter.

Mr. McNeill tells us that in his opinion "it does not make an iota of difference whether you call this much-desired winter condition of bees quietness or hibernation." He also tries to show that I have only insisted upon what bee-keepers have long known to be important, namely, a quiet state. I do not like to suspect or accuse a fellow bee-keeper of willful unfairness, but my would-be critic, after six months' incubation upon my theory, has, to say the least, failed to grasp it, and is really fighting a man of straw of his own manufacture. Let me re-state my theory with the utmost possible brevity:

1. Bees naturally fall into a condition of torpor, scientifically known as hibernation, during the winter.

2. The conditions under which they do this in a state of nature, so far as we know them, are as follows: *a*. Protection from the extreme cold by non-conducting walls and roof. *b*. Total absence of upward ventilation. c. Sufficient connection with the outer air to make them susceptible to changes of temperature, that they may rouse up at intervals of mild weather, and feed. *d*. A uniform supply of pure, still air through a vertical shaft or column, that ventilation may be regularly carried on according to its known laws. *e*. Total quiet.

3. To winter bees well, it is only necessary to see that they have an adequate supply of food, and that they are in a condition favorable to hibernation. I have shown at length in what respects the ordinary methods of wintering render hibernation impossible, and need not repeat myself here.

Mr. McNeill thinks that hibernation, if proved, will not help us to solve the winter problem, for "have we not still to learn how to make them hibernate?" To some extent we have, but we are not wholly in the dark about the matter. Experiments and observations already made, and what we know about bees that winter in a state of nature, throw much light upon the subject. We have got the principles, all that remains is the practical application of them. For that, further experiment is needed. Hibernation either is, or is not, a law of bee-life. One thing is certain—it was not recognized as such, and among the multitudinous methods of wintering, was not so much as *named*, until "Mr. Clarke" was moved impulsively, rheumatically, and hi-falutinly, "to write in the grandiloquent strain in which he has already written." If hibernation is a law of bee-life, we must conform to it, sooner or later; if it is *not*, why "there's an end on't," and the sooner the better.

Speedside, Ont.

Convention Notices.

☞ The next meeting of the Union Bee-Keepers' Association of Western Iowa, will be held on April 25, 1885, at Earlham, Iowa.

M. E. Darby, *Sec.*

☞ The Progressive Bee-Keepers' Association of Western Illinois will meet in Bushnell, Ills., on Thursday, May 7, 1885. Let every bee-keeper who can, be present and enjoy the meeting. J. G. Norton, *Sec.*

☞ The Willamette Valley Bee-Keepers' Association will hold its second meeting at La Fayette, Oregon, on the third Tuesday in June, 1885. All who are interested are invited to attend.

Hadley, *Sec.*

The International Congress.

SECOND DAY.

The morning session was called to order at 9 a. m., by President Brown, and reports of honey-producing flora in North Carolina, Virginia, California and Tennessee were read by the Secretary. Mr. W. S. Hart, of New Smyrna, Fla., was appointed as assistant by the Secretary, and the additional names of members who had arrived since the last meeting were enrolled.

As there was no membership fee, the Secretary could not get quite a number of the names of those who were present; and the following list is therefore very incomplete. The number of colonies of bees reported aggregate 9,542. It is safe to say that about 12,000 colonies of bees were represented by those present.

E. T. Nelson, Preston, Minn.
Chas. Oliver, Springboro, Pa.
C. Thompson, Brighton, Mich.
A. W. Gardner, Centreville, Mich.
B. F. Carroll, Dresden, Tex.
L. Lindsly, Waterloo, La.
J, Van Deusen & Son, Sprout Brook, N. Y.
Martin Emigh, Halbrook, Ont.
Eugene Secor, Forest City, Iowa.
Christian Steiner, Lafayette, La.
Geo. P. Peffer, Pewaukee, Wis.
C. M. Bliss, Fox Lake, Wis.
Jas. Forncrook, Watertown, Wis.
R. Grinsell, Baden, Mo.
T. H. McFarlane, New Smyrna, Fla.
W. S. Hart, Hawk's Park, Fla.
Thos. G. Newman, Chicago, Ill.
C. L. Newberry, Davenport, Iowa.
Oscar F. Bledsoe, Grenada, Miss.
Mrs. W. W. Kinnie, Beloit, Wis.
J. A. Schuddemayer, Black Jack Springs, Tex.
Dr. H. Besse, Delaware, Ohio.
S. J. T. Moore, Monroe, La.
Mary Besse, Delaware. Ohio.
Mr. & Mrs. F. E. Peters, Shelbina, Mo.
J. M. Killaugh, San Marcos, Tex.
S. R. Phillips, Elmira, N. Y.
Dr. J. P. H. Brown, Augusta, Ga.
Amos Abrams, Benton, La.
Mrs. Dr. J. Oren, Laporte City, Iowa.
T. P. Andrews, Farina, Ill.
H. W. Funk, Bloomington, Ill.
P. L. Viallon, Bayou Goula, La.
Dr. Jesse Oren, Laporte City, Iowa.
Miss Anna Saunders, Woodville, Miss.
W. F. Roberts, M. D., Clinton, La.
S. C. Boylston, Charleston S. C.
Dr. McKenzie, Carrollton, La.
Jas. A. Nelson, Wyandott, Kans.
S. A. Stillman, Louisiana, Mo.
H. A. Stearns, Detroit, Mich.
T. J. Price, Macomb, Ill.
C. O. Perrine, California
J. W. Winder, Carrollton, La.
P. J. Christians, New Orleans, La.
A. G. Woodbury, Darlington, Wis.
Wm. J. Dawson, Caddo, La.
Sylvester Johnson, Irvington, Ind.
I. W, Dark, Columbia, Tex.
H. C. Austin, Austin's Springs, E. Tenn.
J. Vandervort, Laceyville, Pa.
O. R. Flournoy, San Antonio, Tex.
Dr. J. W. Hudson, Mayesville, S. C.
J. G. A. Wallace, Brighton, Ont.,
Mrs. L. Harrison, Peoria, Ill.
A. I. Root, Medina, Ohio.
Ernest Root, Medina, Ohio.
W. P. Laughter, Edna, Tex.
John E. Heard, Pikeville, Tenn.
J. J. Nagel, Davenport, Iowa.
L. Johnson, Walton, Ky.
Thos. F. Kerr, San Antonio, Tex.
Dr. O. M. Blanton, Greenville, Miss.
John Crawford, Pleasant, Ind.
Dr. T. E. Loope, Eureka, Wis.
James B. Msson, Mechanic Falls, Me.
A. W. Fisher, Ganges, Mich.
S. W. Salisbury, Kansas City, Mo.
E. Delmonly, Vermillionville. La
J. A. Field, Bismark, Dak.
J. A. Green, Dayton, Ill.
J. W. Northcutt, Walton, Ky.
J M. Hyne, Stewartsville, Ind.
Miss Lottie Dushield, San Antonio, Tex.
Dr. D. R. Fox, Jesuit's Bend, La.
S. L Tyler, Knobnoster, Mo.
M. W. Harrington, Homestead, Iowa.
G. R. Maben, Forest City, Iowa.
Jno. F. Hepp, Boonville, Ind.
Geo. C. Robey, Hazen, Ark.
J. M. Hathaway, Onawa, Iowa.
R. Johnson, Tiffin, Iowa.
W. H. Andrews, McKinney, Tex.
John Wilson, Omro, Wis.
Chas. Dadant & Son, Hamilton,
S. R. Wallis, Lafayette, La.
C. Steim Lafayette La.

The Vice-Presidents, one for each State represented, are as follows:

Arkansas.—Geo. C. Robey.
Canada.—J. G. A. Wallace.
Dakota.—J. A. Field.
Florida.—W. S. Hurt.
Illinois.—H. W. Funk.
Indiana.—Sylvester Johnson.
Iowa.—Dr. Jesse Oren.
Kansas.—Jas. A. Nelson.
Kentucky.—Rev. L. Johnson.
Louisiana.—Dr. Roberts.
Maine.—James B. Mason.
Michigan.—H. A. Stearns.
Minnesota.—E. T. Nelson.
Mississippi.—O. F. Bledsoe.
Missouri.—F. E. Peters.
New York.—L. E. St. John.
Ohio.—Dr. Besse.
Ontario.—J. G. A. Wallace.
Pennsylvania.—J. Vandervort.
South Carolina.—Dr. J. W. Hudson.
Tennessee.—H. C. Austin.
Texas.—W. H. Andrews.
Wisconsin.—A. G. Woodbury.

The following persons then presented their credentials as representatives from local societies: J. Vandervort, L. E. St. John, J. G. A. Wallace, W. F. Roberts, J. L. Harris, James L. Meador, T. H. McFarlane, and Sylvester Johnson.

The Secretary read the following by G. W. Demaree, of Christiansburg, Ky., on the

PREVENTION OF SWARMING.

To prevent swarming altogether is one thing, and to so manage the apiary as to reduce increase to the minimum, is altogether another thing. By the constant use of the extractor, swarming can be very nearly, if not entirely, prevented. Of course this applies only when running the apiary for extracted honey.

When producing comb honey, swarming can be controlled to some extent by removing combs of brood from the strongest colonies, from time to time, and inserting empty combs or frames filled with foundation in their places. The first I do not like, because it requires the removing of the honey before it is properly evaporated. I hold that honey can be more cheaply evaporated by the bees than by any artificial process, and in my opinion honey must be finished up by the bees in order to retain to perfection the peculiar combination which makes honey differ from all other sweets. The second plan is entirely too much labor in a large apiary, besides it is impossible to utilize at all times the frames of brood that it becomes necessary to remove.

If we are content to submit to one "prime swarm" from each colony, we can prevent "after-swarms" by having on hand virgin queens from one to six days old, and when a swarm issues, destroy the royal cells and turn loose among the bees a virgin queen. I greatly prefer this method to any that I have tried, and I have experimented, I believe, with every plan suggested through the columns of the bee-periodicals.

If I am asked why this method is superior to the old plan of destroying all the cells but one, or the more feasible plan of destroying all the cells and grafting in a cell just ready to hatch, I answer that bees when under the swarming impulse will start queen-cells immediately, no matter whether you leave one of their own cells, or give them one ready to hatch; and once having started cells, they will have their own way and send out a swarm, or put the bee-keeper to the trouble of destroying cells as long as there is any unsealed larvæ in the hive.

As far as my observation goes, I have never seen a single case when a colony of bees persisted in building queen-cells in the presence of a virgin queen one to four days old, which had been introduced and accepted when no cells were present. It is hardly necessary to say that virgin queens can be kept in nursery cages at little or no cost.

I assume that not one honey-producer out of ten is so situated that he can sell surplus bees at a price that will cover the cost of hives, combs and winter stores; and as long as this state of things exists, some reliable method which will prevent swarming and put the matter of increase in the hands of the apiarist, will continue to be a deeply felt want. I have experimented in this line for two years past, and will here give my method of "preventing swarming"—a part of which has heretofore been published—hoping that others may help me in perfecting the system of manipulation, or aid in superseding it with a better system.

At the commencement of the honey season I adjust the surplus arrangements on the hives in the usual way, and keep close watch over the bees. When I see "signs" of swarming, I proceed to move the hive from its stand, setting it at right angles thereto. I now place a bottom-board on the old or vacant stand, and proceed to lift the surplus apartment from the original hive and put It on the bottom-board containing combs and bees. One of the frames is supplied with a piece of comb containing larvæ just hatched. I look up the queen in the brood apartment of the parent colony, and put the frame on which she is found, in a comb box. I now shake nearly all the bees from the remaining combs, in front of the surplus apartment, restore the frame with the queen to its place, and close up the original hive, and disguise it by spreading a cloth over it. At the first, the bees at the surplus apartment will show considerable excitement, but will soon start queen-cells and gather honey with the greatest rapidity. They are provided with additional room as fast as they need it. After six or seven days the original hive is gradually turned around so as to bring both entrances practically together.

At the end of ten days, if the season continues good, the queen-cells must be removed from the surplus apartment and substituted with freshly hatched larvæ, and if there is still probability of swarming, the old hive is turned back to its former position, at right angles with the surplus apartment, at a time when the bees are at work in full force in the fields. This will recruit the failing strength of the honey-producing colony at the expense of the parent colony. These manipulations are kept up till the swarming season is nearly over, when the bees are united by replacing the surplus apartment on the old hive, and restoring the latter to its original stand; and the united colony finishes up the honey harvest.

It will be seen that my system contemplates a divided colony during the main swarming season, the queenless division producing the surplus honey, while the parent colony produces the bees. I do not claim that the manipulations which I employ are new; I only claim that the system is new, or in other words, that I have systematized well known manipulations and made them serve a purpose, viz: prevent swarming not hereto known or practiced.

I have no hesitation in saying that by this management I can produce extracted honey in greater quantity and of better quality, and with less labor than by any plan heretofore suggested. By employing the "tiering up" plan no honey need be extracted till near the close of the honey harvest. To produce comb honey by my new system, I have found it necessary to work a case of shallow frames under the section-cases to catch the small amount of pollen which the queenless bees will bring in while building queen-cells.

Mr. Bledsoe (Miss.) did not think it advisable to introduce virgin queens.

Mr. Viallon (La.) advised the clipping of the wings of queens to prevent swarming. He has had virgin queens accepted by the bees 9 times out of 10.

Mr. Muth (Ohio) prevents drone-rearing, and hence has no more increase than he desires. His combs are all worker combs, and he needs no drone-traps nor any other useless fixtures.

Mr. Dadant (Ill.): The cause of swarming is the excess of drones, and these must be disposed of before they hatch, and their place filled with "worker" comb foundation.

Mr. Viallon (La.) said that when a partial honey flow came, the bees would swarm, but when the full honey-flow arrived, the bees never had "the swarming-fever;" when the honey-flow ceases, then they would commence to swarm again. To give the bees extra room would not prevent swarming in Louisiana.

Mr. McKinsey (La.) said that when the bees had no honey to gather, they would swarm, no matter what arrangements were made to prevent it.

Dr. Fox (La.): When there is a full flow of honey, there is no swarming here in Louisiana.

Mr. Bledsoe (Miss.) could, by his method, prevent his bees from swarming.

Mr. Wallace (Ont.) remarked that in Canada, swarming was the rule when the honey-flow was abundant, and was surprised to learn that it was just the opposite in the South.

Rev. L. Johnson (Ky.) who had but just arrived, came up to the President with a white clover blossom in his hand, and presented it to the Congress, as "the first fruits" of the coming harvest. He had plucked it on his way to the meeting, and hoped that it would be regarded by the Congress as the bright omen of a plentiful crop of honey. Here the clover was blooming while the thousands of colonies owned by those present from the Northern and Middle States, were in a state of repose and quietude by reason of the intense cold and the deep mantle of snow under which they were buried.

Mr. J. W. Winder (Thibodeaux, La.) presented the Congress with a large bouquet of honey-producing flowers just gathered near Chicago (*i. e.*, merely 907 miles directly south of its frozen region). This the President presented to Mrs. L. Harrison, of Illinois.

Mr. B. F. Carroll (Tex.) said that he prevented swarming by tiering-up and the use of the honey-extractor.

Dr. Hudson (S. C.) said that increase would come unless better care was exercised and the queen-cells were carefully cut out.

Mr. Flournoy (Tex.) said he prevents swarming by boring holes in the hives to give the bees air, and by tiering-up.

Dr. Besse (Ohio) had 170 colonies last spring, and only permitted 7 swarms to issue. He gave the bees room and "tiered-up."

An essay by Dr. C. C. Miller, of Illinois, was read by assistant Secretary Hart, on

SECTIONS FOR COMB HONEY.

It has become pretty well settled that whoever produces comb honey for market will, in the present state of advancement, use sections. The one-piece section seems at present most popular, and if only one size were to be used, it would probably be the one-pound section. Of this the section 4¼x4¼ inches is most generally used, having a width of nearly 2 inches when used with separators, and about 1¾ inches when used without separators. Different markets require different sizes, and it is possible that entire uniformity of size may never be attained. In Boston the half-pound sections have been sold as high as 5 cents per pound above the price of larger sections, while in Chicago they bring no higher price than the one-pounds. So each one must study his own market, and it may be that on the same market more honey will be sold if customers can select from a variety of sizes.

Undoubtedly there are advantages in favor of having only one size of sections, as manufacturers can afford to sell sections at a lower price if there is something like a standard size, and can afford to keep a stock on hand, so that orders can be filled at any time. Whether separators are to be used or not, each one must decide for himself; certain circumstances or methods of manipulation favoring dispensing with separators more than others.

I have noticed quite a difference, in different years, in the weight of sections; some years the so-called "pound sections" average more than a pound; other years, less. Whether this is due to a difference of seasons or a difference in management, I am not prepared to say. Probably both enter into the problem.

In the year 1883 I experimented with sections 4¼x4¼ inches and of five different widths. The ordinary pound sections, scant 2 inches in width, used with separators, averaged 14.32 oz. per section; the others were used without separators and averaged as follows:

1 5-7 inches.........	averaged 13.8 oz.
1½ inches..........	averaged 11.76 oz.
1 1-3 inches.........	averaged 10.47 oz.
1 1-5 inches.........	averaged 9.57 oz.

So far as the experiment went to show, it appeared that the sections 1½ inches in width suited the notions of the bees the best, and if I should dispense with separators I should prefer sections 1½ inches in width.

Amongst the problems regarding sections on which light is needed, is the question, what shall be done with unfinished sections at the close of the honey-flow? Last year I extracted part and fed back the honey to get the bees to finish the balance. The result was not entirely satisfactory. What shall be done with the partly finished sections from which the honey has been extracted? Shall they be kept till the heaviest flow comes in the next season, or shall they be used as baits to induce the bees to begin work in supers at the beginning of the honey-flow?

Mr. Wallace (Ont.) remarked that he removed all unfinished sections at the close of the honey-harvest, extracted the honey, let them freeze, and put them away for use next season.

Mr. Newman said that the size of the sections to be used, should be determined by the markets to be supplied, no matter what the preferences of the bee-keeper might be. While the 2-lb. sections were preferred by some, the demand was great for those holding but a single pound.

The following was read from Frank Benton, of Munich, Germany, on

APIS DORSATA AND THE BEES OF THE ORIENT.

When you are gathered in the Crescent City, I shall be under the palms which skirt the sands of Great Sahara. Of course it is for our little insects that I go thence, and I shall not fail to tell you, later, of the work and experiences of the journey there, which is undertaken, primarily, for the purpose of establishing an apiary for parties owning estates in the province of Tunis in Northern Africa.

In the midst of the preparation for this journey, and the subsequent journey farther east—to Egypt, Cyprus and Syria—I find it very difficult to prepare anything like an essay proper on any subject, though, did time permit, I would gladly detail a number of my observations and experiences in connection with the bees, bee-hunting, and bee-keeping in India, while on a journey there during the winter of 1880-81 after new races of bees, more especially the great "Apis dorsata." I shall, however, be obliged to ask to be excused if I only present a few lines most of which were hastily written for publication in England a year or so ago.

Most of the "Apis dorsata" colonies which I saw, consisted of but one huge comb attached to a large branch, or to some overhanging ledge of rocks. But this giant honey-bee (it surely deserves the name "honey-bee," although it is not cultivated), does sometimes build several combs side by side, for, when in Ceylon I transferred into a mammoth movable-frame hive a colony which had built three parallel combs in a cavity of the rocks. I found these bees in the Kurunegala district, at a place known to the natives as Bambera-galla ("Apis dorsata" rock). It was a wild forest region, some miles from any habitation, rarely visited, so that I had much difficulty in transporting my hives and implements to the place, and getting up to the top of the rock, which, perched on the side of a mountain, towered up nearly a hundred feet from the lower side. The walls on all sides were either perpendicular or overhanging, and I was at first at much loss to know how we were to get up to the dozen or more huge colonies whose combs were suspended from 2 to 4 feet from one of the overhanging ledges near the summit.

But the natives, of whom there were a dozen present, led me by a crevice just large enough to admit a man's body into the interior of the rock, and, by building a ladder of poles and rattans, we reached a sloping ledge some 40 feet up; thence winding around we came nearer the summit, and at last found a dark passage leading right up through the centre of the rock. The top was nearly level, and about 10 feet square. A cavity enclosed on all sides but one, and partially roofed over, contained a large colony of the "Apis dorsata," which, of course, I had not been able to see from below.

The bees drove us down in the daytime, but at night with the aid of a torch and smoke, I cut out the combs and fitted them into frames which were placed into a hive. I had learned that the best time to approach these bees in their forest lodgment is at night, as they do not fly much then. The frames of my hives were about 12 inches deep by 18 inches long, and so the combs were cut accordingly. I think larger frames would have been better, but not so easy to transport. As the "Apis dorsata" comb is 1⅜ inches thick, the bars of my frames had been made of that width. There were some 50 to 60 pounds of honey in the combs of this colony, and after I had given the bees a fair supply the natives had a nice feast, and some was left over; besides, they eagerly devoured the bits of brood which did not find place in the hive.

As this was towards the close of the season when the bees find little honey, just before the swarming season, it is fair to presume that the amount of honey would be much greater at almost any other time, and the huge combs would have made a nice lump of wax. We secured but one other colony of the dozen that were on the overhanging ledge of rock; the risk to limb and life being too great to try for any more there, we moved on to other localities. Once in movable-comb hives I did not find the "Apis dorsata" intractable, but on the other hand, quite easily controlled, even without smoke; and though its industry did not, during the time that I was in possession of several colonies, equal my expectations in this direction, yet it must be admitted that the colonies were hardly in fair condition to furnish a test case, before a severe fit of sickness which overtook me prevented my giving them proper attention. Then came the loss of the queens after their long journey to Syria, at a time when no brood remained in the hives. All this was but the consequence of my prostration with fever. I do not, therefore, know to this day whether "Apis dorsata" can be domesticated or not, or whether if domesticated it would be a profitable bee to rear. It is, however, an experiment well worthy of trial, and a subject well worth the attention of the highest tribunal in bee-matters which meets on the shores of the New World.

The little "Apis Indica" builds its parallel combs (⅝ of an inch thick, 36 cells on each side of a square inch) in hollow trees, rock cavities, etc., and is cultivated to a certain extent in earthen pots, wooden skeps, etc.; yet I do not believe with much profit. The queens are prolific, and the workers industrious, but it is what the Germans would surely call a swarm-bee. And if kept in movable-frame hives, the great difficulty would be the absconding of the bees at nearly every manipulation, notwithstanding the presence of brood and honey. I have lively recollections of getting the bees of a recently transferred colony whose combs I was fixing a little, back into their hive 6 times in succession on one morning, performing in these processes a good many gymnastics on the roofs and trees in the vicinity of my apiary. Before I learned of this peculiarity of "Apis Indica," I formed quite a favorable opinion of it; though, from all that I saw, I should think that 24 pounds of honey reported as its yield in the Wynaad, rather high, but, of course, I judge merely by the amounts I saw in the combs of the colony which I captured. As the cause for absconding seems to lie in the very excitable nature of these bees, I would recommend the use of smoke only when absolutely necessary. They can generally be driven from combs by blowing them strongly, and become less excited than when smoked. They can be brushed or shaken from the combs easily. As the worker brood-combs are but 5-8 of an inch thick, the bars of frame hives intended for these bees should be but 5-8 wide instead of ⅞ to 1 inch, as for "Apis mellifica," and the spacing but ¼ to ⅜ of an inch at the most.

In Ceylon I found two parties who had procured hives from England, which, of course, were adapted to "Apis mellifica," and had frames whose bars were 7-8 to 1 inch wide, and spaced so as to remain ⅜ to ½ an inch apart. Of course these parties could not understand why their bees would not do the way the books said that other people's bees were accustomed to do, that is, build the combs regularly, and but one in a frame, never once dreaming that, not only were they not of the same race, but, even more, they belonged to quite a distinct species.

Whatever may be the result of any attempt to cultivate the honey-producing bees native to East India, I still feel sure that, in the hands of a bee-master of sufficient experience and knowledge of principles to enable him to adapt himself, or rather his management, to circumstances, any of the races of the species of "Apis mellifica" can be made to thrive in India. I am certain that those colonies of "Apis mellifica" which I took to Ceylon thrived very well indeed during the time that I had them under my observation.

I look forward to the time when bee-culture in India will be a source of no inconsiderable revenue; in fact, I fear the time will yet come when American bee-keepers will find that their tons of delicious nectar will have to compete in the English market with tons of sweets gathered on "India's coral strand."

A vote of thanks was passed to Mr. Benton for his very interesting essay.

A short discussion ensued on the "pollen theory" which received no endorsement; the speakers being Rev. L. Johnson, Dr. Jesse Oren, C. P. Dadant, C. F. Muth and others.

The use of wide frames for side-storing was also discussed by Mr. Viallon, Mr. Wallace, Mr. Muth, and Mr. L. Johnson, all thinking that that method was getting to be "a thing of the past."

Adjourned to 3 p. m.

At 3 p. m. President Brown called the meeting to order, and Mr. Hart, of Florida, read his essay on

PRODUCING, CURING AND PREPARING HONEY FOR MARKET.

To the producer of extracted honey, quantity and quality are questions of vital interest, and any information tending to increase the former or improve the latter is joyfully received. I can hardly hope to add anything new to either of these questions, but as much of what has been written in regard to them has not yet been accepted by all as facts, I may be able to help to decide some of the as yet doubtful points.

In considering the question of quantity, the process that will give the greatest number of pounds of honey from a given number of colonies, and do it with the least expenditure of labor and money, seems to be the one sought for. Perhaps I can best convey my opinions upon these matters by giving the methods which I would follow were I to take an apiary and work it for one year with the view of getting all the extracted honey from it that I could. While doing this I wish it to be remembered that I speak for my own locality, yet there are many principles that will apply equally to it and to all others.

The honey-flow commences early in January, and is usually checked by dry weather late in March. It commences again early in May, and continues until about Aug. 10; from then until Sept. 15 no honey is gathered, as a rule. After the latter date a light flow commences, and continues, some years, until the last of November, and when there is a large crop of palmetto berries, a month later. Swarming commences from the middle of January to the middle of March, and continues until May, if not interrupted by the drouth in April. I would have all my bees in 10-frame Langstroth hives with one story, as soon as the honey-flow and weather would warrant. I would occasionally spread the brood and insert an empty comb in the middle of the brood-nest. I would encourage the colonies to cast two natural swarms each, and the first swarm to cast one, making my increase from one to four. As soon as the honey-flow begins to slacken in March or April, I would feed lightly every evening after sundown. This light feeding keeps the queens laying and the colonies in fine condition to take hold of the summer honey-flow. As soon as honey begins to come in freely in May, I would put on the top sections, and in each hive I would put one frame of uncapped brood, and the rest of the frame filled with empty combs or foundation, watch them for a day or two and see that they commence storing there.

As soon as the combs were one-third capped, I should go around with my comb boxes and take up nearly all and put empty combs where full ones had been removed. This I should continue to do so long as the flow lasted, making the rounds as often as I could do so and find the honey from one-third to one-half capped. By the middle of July I would begin to look for efforts to swarm again and take measures to prevent it. I should be particular not to extract so as to leave less than 20 pounds of honey in the hives at the close of this flow. If it continued longer than I expected, and there was more honey in the hive when the close of the flow came, I would take up the surplus, working under a bee-tent the while to prevent robbing. If, during the fall and early winter honey-flow, the hives were filled, I would take out a part to give room for more, but only enough for that.

If I now had nearly as many bees as I wanted, I would leave all the top sections on for the next season.

As I said before, I would take up my honey and extract it as soon as it is from one-third to one-half capped, and I would then cure it by placing it in tanks in the sun, or by running it through an evaporator under glass, on bright, sunny days, and then barrel and bung it up tight. For home trade I consider small packages, such as honey-bottles or the tin pails now so much used, the best; but for sending long distances there is nothing better than a good, 40-gallon cypress barrel well waxed inside.

Mr. Wallace (Ont.) asked what Mr. Hart used for waxing honey-barrels.

Mr. Hart replied that he used paraffine because of its cheapness. He extracts the honey before it is capped, and then cures it by evaporation.

Mr. Muth cures his honey by evaporation, lets it stand and granulate solidly; then it is good, and keeps well.

Mr. Flournoy did not like hard-wood barrels. Cypress kegs are best and need no waxing.

Mr. Viallon extracts the honey when it is about ⅓ capped, lets it settle for 12 hours and then draws it off from the bottom, leaving about a barrel in his tank. He found Cypress barrels better than hard-wood ones; they do not leak and need no waxing.

Mr. Grinsell (Mo.) used oak barrels and had no loss of honey; they were alcohol barrels, and were iron bound.

Mr. Viallon said that the cypress barrels should be made up a year before needed, and then re-coopered. Honey will go through barrels that would hold molasses.

Thos. G. Newman was then called upon for a speech upon

THE TRANSPORTATION OF HONEY.

Mr. President Ladies and Gentlemen:

Before discussing the theme assigned to me, allow me to remark that the present occasion presents much food for thought. The magnitude and splendor of the World's Exposition (the existence of which has brought this congress together) deserves more than a passing remark; still, in our thirst for apicultural knowledge and the exchange of views on that ever-advancing pursuit, we can digress but a moment to remark that its wonderful "exhibition" of the progress and improvement of the present *inventive* age is astounding.

Among the industries of this great continent, that of honey-production is by no means the least. From the United States, Canada, Cuba, Mexico and Brazil, enough "concentrated sweetness" is annually gathered to make an industry of very respectable proportions.

The honey crop of America for the present year is estimated to be worth about sixty millions of dollars, (⅓ of it being in the comb and ⅔ extracted). The wax product amounts to over one million of dollars.

These figures give a grand idea of the dignity of our mission, the magnitude of the work before us, and the exalted possibilities that inspire us to fresh zeal and grander achievement. Behold! how invention and art and science have followed our pursuit in all its progressive steps!

This grand amount of comb honey must be produced in such a manner that it may be placed upon the markets of the world in the most attractive form; stored in strong combs, safely guarded by neat but attractive bands of wood, and these again should be placed in glassed crates which will show the honey, to attract the attention of the lovers of the beautiful and captivate the eye of those who relish the deliciousness of the God-given sweetness.

The apiarist should give his personal attention to its crating, grading and shipping, so that he may be positive as to the details, should any question, involving these, be raised by the consignee. The inexperienced and careless ones are always a detriment and sometimes ruin the market, for their more careful and experienced neighbors. They take an inferior grade of honey, put up in irregular and soiled packages, to market early, just to get a little money, and sell for any price offered; and this often settles the price for that locality and season, and the attractive honey is either sacrificed to their carelessness, or shipped to another market. If shipped away to market it must not be packed in straw or chaff; but put in small crates containing a single tier and placed with the top-bar downward, which is the strongest way, and will prevent much breaking down. Ship by freight for the expressage will be so high that it will take off all the profits, and is, in nearly all cases, liable to as much damage as when sent by freight. See to its packing in the car, wagon or vehicle, and place the combs lengthwise to the engine but crosswise to the horses, and give direction not to have it unloaded on trucks, but invariably to be unloaded by hand.

Honey when it is extracted from the combs, should be thoroughly ripened and placed in receptacles to suit the market for which it is intended. Some confectioners, and others who use honey extensively, may be satisfied with large casks (clean and sweet), but the majority who buy it at wholesale prefer it put up in kegs holding from 50 to 200 pounds. The retailer will need it put up in pails, jars, cans or tumblers of various sizes and shapes to suit the fancy of consumers. When thus put up, it is good for years.

To transport honey from the apiary to the "centres of commerce" with perfect safety, and at the same time inexpensively, should be the aim of all honey-producers, but there are many difficulties in the way. Railroad companies have heretofore erred greatly in the classification of "bees" and "honey." They have classed *hives of bees* at double first-class rates, which is very unjust—making the charges equal to those for sending by express. Then, by the mistaken use of the word "hive" for *colony*—empty hives, by many railroads, have heretofore been classed the same as those containing bees, greatly to the detriment of those who buy hives from manufacturers. They should go as "empty boxes," at about one-eighth of the cost now demanded for freight by some railroads.

In one tariff to which our attention has just been called, "bees in hives" are 4th class; but while bee-hives in car-load lots are 6th class, single "bee-hives" are double first-class, and prepayment of charges demanded! The utter foolishness of such can only be explained by the fact that the one who arranged it, knew nothing about bee-keeping! Bee-hives (*i. e.* empty boxes) are charged double first class (say $2.00), while "bees in hives" go for 60 *cents!* from New York to Chicago. Let me request this Congress to take the matter in hand, appoint a committee to wait upon the next meeting of the Transportation Agents, and endeavor to have these "ratings" revised—thoroughly and rationally.

In the matter of shipping honey to market—the classification is so high that it amounts to almost a robbery—and to seek relief, some bee-keepers ship extracted honey as "syrup," at less than half the rates demanded for honey. Tariffs ought to be revised, and liquid honey should be rated the same as syrup.

Those bee-keepers who have a desire to be exactly right, and feel delicate about the matter of shipping honey as syrup, are, therefore, compelled to pay double the amount which their less scrupulous neighbors have to pay for freight to the large marts of the world. Some grades of syrup sell as high as honey, and there is no reason why both should not be graded alike, when one is as easily and cheaply handled as the other.

Having taken the initiative, to have this matter remedied, we have felt it to be our duty to follow the matter up by using our influence on the railroads to have the matter satisfactorily adjusted, and as a result, we now have *new* classifications on the through lines east, of which we will give the following as a sample, dated Jan. 1, 1885:

"Bees in hives—4th class.
Bee-hives (knocked down) 3rd class.
Bee-comb, boxed, 3rd class.
Honey in glass, 1st class.
Honey in barrels or casks, 3rd class.

In order to make this classification understood, we will enumerate the rates between Chicago and New York: "First class $1; second class, 85c.; third class, 70c.; fourth class, 60c., per 100 pounds."

This classification will no doubt be followed by other railroads as soon as their attention is called to it, and, before another year dawns on the world, we hope that there will be much less cause for complaint by bee-keepers concerning the freight classification of bees, hives, honey, etc.

Jas. D. Meador (Iowa) said every bee-keeper should endeavor to have this matter adjusted to the satisfaction of all the bee-keepers of America.

After some discussion it was voted to appoint a committee to present resolutions setting forth the views of this Congress, and to wait upon the meeting of commissioners of the freight lines, to be held at Atlanta, Ga., very soon. The President appointed the committee as follows: S. C. Boylston, South Carolina; Jas. L. Meador, Missouri; and L. E. St. John, New York.

An essay from Mr. O. O. Poppleton, of Iowa, was read upon

PASTURAGE FOR BEES.

In considering this subject, four questions naturally arise: 1. Is it desirable to have more pasturage for our bees than nature gives us without special effort on our part? 2. Is it possible to increase the growth of honey-yielding plants by efforts of our own? 3. Can we obtain sufficient results from such efforts, to pay us for the labor and money expended? 4. What are the particular plants, if any, that it will pay to raise for honey. As the first two questions will undoubtedly be answered in the affirmative by all, they, therefore, need no discussion.

When in this essay I speak of artificial pasturage, I mean all those honey yielding plants not usually found growing without having been especially planted for that purpose. In considering this matter of artificial pasturage, the first thing to do, is to take into account the probable amount of such pasturage necessary for effectiveness, and I know of no other way to do this than to examine the extent of our natural resources. I have observed the bees from my apiary, consisting usually of between 100 and 200 colonies, being nearly or quite as numerous on white clover five miles from home as they were in the immediate vicinity of the apiary, thus showing that the bees glean from an extent of country with a diameter of at least ten miles, or about 50,000 acres, in round numbers. This is of course not all covered with clover, but as at least one-tenth of it is so covered, leaves as a very low estimate, the equivalent of some 5000 acres completely covered with white clover. I sometimes obtain 10,000 pounds of surplus white clover honey, or an average yield of 2 pounds per acre. The total yield per acre that might be obtained with just the right number of bees for the capacity of the field, is, of course, very uncertain, but I doubt whether over one dollar's worth of honey could be obtained from each acre, under the most favorable circumstances, without counting cost of apiary labor, etc., in obtaining that amount, or allowing for a reduced yield when circumstances are unfavorable. Again, there are certainly not less than 5,000 basswood trees within reach of my bees, and the largest crop of basswood honey I have ever obtained in one season was 4,000 pounds, or less than one pound per tree.

Of course these calculations are necessarily very crude ones, but they show unmistakably that this subject of artificial pasturage is not one of an acre, or a few acres, but one involving large areas of land, and entirely forbids the use of high-priced, valuable land for this purpose. Again, plants that require cultivation must be discarded from our calculations, as any one can readily see by calculating the expense of caring for, say 80 acres, when planted to any of our most-easily cared-for crops. Neither do I think it can be made profitable to raise any plant for honey alone, that requires to be re-seeded each year.

From the foregoing we would deduce the following rules or principles that must be observed if we would ever succeed in profitably raising plants for honey only, viz:

1. Plants must be grown on large areas of ground, not simply on small patches.
2. Either barren or very low priced land must be used, as the results will not pay the rental of valuable farm land for this purpose.
3. Plants must be selected that will re-seed themselves year after year.
4. They must also be plants that will retain possession of the ground on which they are grown, to the almost entire exclusion of other vegetation year after year without annual cultivation.
5. Plants used for this purpose should not be very troublesome weeds, especially if liable to spread on neighboring farms.

Now comes the practical question. Have we any plant or plants that possess the proper qualities? Each one will have to answer this question for his own locality, but for mine, I am very unwillingly forced to answer, no. I have tried several, especially figwort and sweet clover, and they are both signal failures in those qualities described in rule 4.

While I have been very reluctantly forced to the conclusion that it is not practicable to raise plants or trees on a large enough scale to materially increase our crops of honey, I think it probable that we can increase the growth of figwort, sweet clover, etc., in waste places in our neighborhoods, enough to keep the bees at least partly employed during what would otherwise be seasons of almost absolute dearth of honey-producing plants. No experienced bee-keeper needs to be told the advantages of this, even if little or no surplus honey should be gathered at these times. We now come to the consideration of a different class of plants, viz: those that are valuable for purposes other than the honey they produce, such as alsike clover, buckwheat, etc.

I would place buckwheat at the head of this class for value, it being one of our best paying crops for its grain, wherever it can be successfully grown, and whatevery honey it yields is so much clear gain, but unfortunately its yield of honey is very uncertain. A few years ago I reported at one of our conventions, that I had obtained about 6,000 pounds of honey from some 25 acres of buckwheat. As I only estimated the area of the crop grown within 2½ miles of my place, and later observations have convinced me that bees profitably gather from a much greater distance than that, therefore, the number of acres from which the crop was gathered was greater than I stated. This was the largest amount of buckwheat honey I have every obtained in one season, while the smallest has been some less than 2,000 pounds with at least 100 acres of buckwheat within three miles of me.

It is a mistake that this plant can be sown so as to make a succession of honey crops. No matter how fully it may be in bloom, it usually commences to yield honey about Aug. 10 or 15, the earliest and latest it has ever commenced to yield with me, having been the 5th and 20th of that month respectively. Prof. Cook reports having once seen it yielding honey much earlier in the season, but this single instance makes no rule. Alsike clover also yields honey largely, but its coming at the same time white clover does, lessens its value materially. Its high crop-value, however, for either hay or seed, makes it one of our most profitable honey-plants. I have tested mowing it when first commencing to bloom, so as to retard its full blooming until after white clover, with partial success; but I find the following drawbacks to a full success: Too large an area has to be handled to afford a material help, and a partial or entire failure, if the weather should be very dry. I have, therefore, abandoned this plan after experimenting with it two seasons.

To conclude, I cannot say that I have much faith in our being able to materially increase our honey resources, except by such means as scattering seeds of honey-plants in waste places in our neighborhoods, by inducing our neighbor farmers to raise some or all of the honey-producing crops, and by selecting those kinds that produce honey, whenever we set out shade trees on our premises.

Some remarks were made upon the advisability of providing bee-pasturage, by A. I. Root (Ohio), J. D. Meador (Iowa), Paul L. Viallon (Louisana), J. A. Green (Illinois), Dr. Blanton (Mississippi), and others—all agreeing that it was very desirable to obtain something for the bees to work upon, during the regular "gap between the honey-flows," which occurs in mid-summer.

Paul L. Viallon (La.) then read the following address, giving his views upon the

AMOUNT OF HONEY CONSUMED BY BEES TO MAKE ONE POUND OF BEESWAX.

I doubt whether this question will ever receive an accurate answer, as it is a rather dificult problem to solve correctly; but by experiments I have found that it requires a great deal less than it was formerly believed. It will probably be remembered that I read an essay at the North American Bee-Keepers' Convention held at Cincinnati in October, 1882, in which I gave my experiments on this subject, with bees in confinement. I then stated that I thought that it would require less honey to produce one pound of wax when the bees were at liberty and gathering nectar, basing my ideas on the difference between cane-sugar and honey as wax-producing elements, as I found that bees will secrete more wax with sugar than with honey.

If we compare the analysis of nectar with that of honey, we see that though the saccharine matters of nectar are composed mostly of cane-sugar, and show no trace of glucose, we find honey to contain from 40 to 45 per cent. of glucose and no cane-sugar, or at least very little. Now, as bees will make more wax with cane-sugar than with honey, why should not nectar, mostly composed of cane-sugar, when gathered by the bees and used by them before it has undergone its general transformation into honey by the action of the acid incorporated into it, produce more wax than ripe honey with which we have made our experiments? This question is what led me to make the following experiments, and although not minutely correct, they are, I think, sufficient proofs to show that it does not require 20 pounds of honey to produce one pound of wax, as asserted in some of our latest works on apiculture.

During a flow of honey (nectar), I took a full frame from each of several colonies, apparently of the same strength and condition, and inserted empty ones in their places. I picked out 4 of these colonies which had built the same amount of comb in the same length of time in the empty frames which were inserted. I then took all their combs away, and to each of two of them I gave 10 frames of empty combs, and to each of the other two 10 empty frames; at the end of 28 days I had extracted from the two having the combs, 57 pounds and 4 ounces and 62 pounds and 3 ounces, or an average of 59 pounds and 11 ounces; from the two having empty frames, I extracted 29 pounds and 4 ounces and 32 pounds and 8 ounces, or an average of 30 pounds and 14 ounces. After melting the combs of the last two colonies, I obtained 7 pounds and 14 ounces of wax, or an average of 3 pounds and 15 ounces, showing that there was a little over 7 1-3 pounds of honey consumed for each pound of wax made by the bees. In a former experiment of the same kind, 8 pounds of honey was consumed.

Dr. Blanton stated that his method of purifying wax was by boiling it in pure, clean rain water three or four times, straining it through a cheese cloth, letting it cool slowly, and then running it off into moulds.

The Congress then adjourned till 10 a. m. on Thursday.

THIRD DAY.

President Brown called the Congress to order at 10 a. m., and called for the report of the Committee on Transportation, which was as follows:

The Committee, to which was referred the matter of freight charges on apiarian supplies and products, beg leave to report that they are unanimously of the opinion that the excessive charges now exacted by the transportation lines, arise, not so much from the desire to exact these amounts, as from the fact that few classifications include the supplies of bee-keepers under their proper nomenclature, which are frequently incorrectly charged, and at different times different charges are made upon the same article. Also, that these charges are exacted through ignorance of the real value, and also of the risk incurred in transportation.

We, therefore, beg leave to offer the following resolutions for your consideration:

Resolved, First, That the charges now made on our products and apiarian implements by the transportation lines of the country are in many cases excessive, and the articles themselves are not properly classified when compared with other agricultural supplies of equal value, weight and compactness.

Resolved, Second, That the charges on our honey products when put up in like packages, should not be more than that of syrup—the weight of honey to the cubic foot being nearly 20 per cent. more, and frequently of not more marketable value.

Resolved, Third, That all bee-organizations be advised to approach the transportation lines in their vicinity, and endeavor to obtain a uniform classification by explaining the nature, weight, value and risk incurred in transportation of the articles necessary to our business.

The report was received and the Committee discharged. It was then unanimously adopted.

The following from Prof. A. J. Cook, Agricultural College, Mich., was then read by Mr. Hart:

FECUNDATION OF QUEENS.

The subject assigned to me by the Committee, is the somewhat startling theory recently stated and defended by some of the writers on apiculture, "That the liquid juices of the drone-brood may be successfully and exclusively used to impregnate a queen."

Any theory in natural history which cuts athwart the conclusions settled by the long, arduous experimental research of the scientists of the world, should be considered as resting on a false basis, either of experiment or observation, until tried over and over again under the most crucial tests, and the most thorough and exhaustive experiments.

Scientific men in all the civilized nations of the world have agreed, after the most wide-searching and profound study and experiment, that there are only three methods of reproduction among animals:

First, we have fission, or mere separation. One animal divides and becomes two animals, each as perfect as the parent. This method prevails among the protozoa—nearly all of which are microscopic—the the sponges and the polyps. Thus it is confined to the very lowest of animals. In this reproduction by fission there are reasons to believe that, in some cases at least, the separation is preceded by the reception into one animal of the entire substance of another animal of the same species. This might seem to lend support to the theory under discussion; except that it is only observed among the animalculæ—the lowest of the animal creation, where the whole body substance is wholly, and only, undifferentiated protoplasm. To use it in support of the theory in question would be a far-fetched argument.

The second method of reproduction is that of gemmation or budding. This reminds us of the budding among plants. A bud-like process develops from the animal, which finally drops off, and with perfection of growth becomes another animal exactly like its parent. This kind of reproduction is met in the protozoa, the polyps, and in some of the worms. Like fission, it is a low form of increase, though higher than fission, and, as we see, is confined to the lower animals.

The third kind of reproduction is sexual reproduction. This is seen in sponges and all higher groups, often existing side by side with the other and lower methods of reproduction.

In all sexual reproduction, eggs bud out from organs called ovaries. These eggs are cells, and in a few cases are capable of development under favorable conditions without the stimulative aid of any other cell. Usually sperm-cells must bud forth from other organs—the testes—and become incorporated in the cell substance of the eggs, before the latter may become potent to develop and so reproduce the species. Sometimes the eggs and sperm-cells are produced in the same animal. Such animals are called hermaphrodites. Hermaphrodites may be studied in animals as high as earth-worms and snails.

The development of eggs without impregnation, which can be conclusively proved by any one who will take the trouble, is so exceptional in sexual generation, that we need not wonder that it was doubted at first, when announced as true. We now know that in plant-lice, bark-lice, and in the males of ants, bees and wasps, this is the method of development. Any person with but slight pains and scientific ability, can demonstrate it. The fact that those unicellular animals—the protozoa—which, like the egg, are but cells, reproduce usually without the vivifying influence of other cells, makes this parthenogenesis among high animals, like bees, not so strange. That some of the protozoa unite their body substance prior to generation, makes us understand more easily why bi-sexual generation is the most common method among the higher animals.

Now we see that in all this there is not an atom of support for the new proposition. Of course there are organized cells in the liquid juices of drone-larvæ—as there are in our own lymph and blood; but these are not reproductive corpuscles or cells, and to believe them capable to fructify the germ-cells or eggs, would be absurd, as such use would be unnatural and foreign to their real function.

We all know how small drones often are, and how easily they may be concealed from the most vigilant search; some of us are certain from our own experiments that rarely—very rarely I think—queens are fecundated in confinement, or in the hive. How then do these advocates of this new and very exceptional theory, know but some such drone, met their queens in the hive. The whole matter is so complicated that to say the impregnation can only be accounted for as the result of this very artificial inoculation, is most rash. Any such theory should be tried over and over before it is pushed forward to the dignified position of a scientific theory. In a case so complicated as the one before us, where it is so difficult to prove that the fecundation has not been entirely natural, all the pains and all the more experimentation is called for. Many of us need to learn that hasty generalization is the bane of any art or science.

The essay was considered quite conclusive, and no one made any criticisms.

The following essay by Mr. Charles Dadant, was then read by the Secretary, on

COMB FOUNDATION—ITS HISTORY AND USE.

Although the invention of comb foundation is of late date, the need of human ingenuity to aid the bees was recognized long ago by scientific bee-keepers. There are three points to be gained by the use of comb foundation, viz:

1. A saving of time, honey and labor to the bees. Beeswax was found, by repeated experiments, to cost the bees not less than 15 pounds of honey for every pound of comb built. These experiments proved conclusively that the actual value to the bees, of beeswax, if it could be returned to them in the shape of combs, was far in advance of the commercial value of this article. Even at the low price of 6 cents per pound for honey, the relative value of comb foundation is demonstrated to be not less than 90 cents per pound.

2. Another object to be gained by the use of foundation is the destruction of drone-comb by replacing it with worker-comb. Very few among our most practical bee-keepers place enough importance upon this item. We see thoughtful bee-keepers seriously discussing the pro and con of a drone-trap when they could just as well do away with nearly every drone, radically, by removing drone-comb. Of course it is impossible to remove every drone-cell from any hive, but a few square inches of drone-brood will never cause the annoyance which is sustained by the existence of whole sheets of drone-combs in the breeding apartment of nearly every hive. Is it necessary to remind bee-men that 32 drones require as much room, as much care, and as much feed as 50 workers? Is it necessary to tell them that a sheet of drone-comb can be removed from a hive in early spring and be replaced by a sheet of worker-comb or worker foundation in less than 5 minutes?

3. The other advantage to be derived from the use of comb foundation is securing straight combs in the frames. This is the main requisite for success with movable-frame hives. With crooked combs, a movable-frame hive becomes worse than an ordinary box hive, for it does not allow of any manipulations necessary in practical bee-keeping.

All these advantages were long ago recognized by our predecessors and leaders in the study of bee-keeping. Samuel Wagner, formerly editor of the BEE JOURNAL, was the first in America who tried to make comb foundation; but his attempts failed. Mehring, in Germany, made the first successful efforts in 1857; but his sheets of foundation were badly printed, and were not always accepted by the bees. P. Jacob, of Switzerland, improved on this invention and manufactured a press which made much better work; but the great objection to a press is that it cannot make uniform work unless the wax sheets are absolutely perfect.

In 1875 the first practical work was done. Mr. A. I. Root, with the help of a good machinist, made the first roller mill, and since that time it has been improved upon until the use of comb foundation has become as widely spread as the introduction of the Italian bee. Hundreds of machines have been sold, and the American foundation machines are used as well in the old world as in the new. I have exported machines of the Washburn, Dunham and Vandervort make, into France, Italy, Switzerland, Austria, etc.

The sale of foundation has taken unlooked-for proportions in this country, and this shows once more the practical matter-of-fact spirit of Americans, so prompt in accepting undeniable progress, especially in industrial spheres.

I have been requested to give my opinion of the machines now in use. It would hardly be fair to speak in favor of any one publicly. I can, however, state what are the main requisites of good foundation both for brood and for comb honey. This statement is not only the expression of my views, but also that of the majority of bee-keepers.

All comb foundation should look as nearly like the natural base of comb as possible. All unnatural shapes are objected to by bees and bee-keepers.

Foundation for brood-combs requires a thin, uniform base, and heavy, well printed walls. There should be enough wax in the walls of it to make nearly the whole of the comb when drawn out by the bees. The greater or less pressure to which the wax is subjected has absolutely nothing to do with its manipulation by the bees: its greater or less compactness or firmness being altogether dependent on the manner in which it is melted, for use.

Foundation for comb honey requires an exceedingly thin and uniform base—as thin as that of natural comb, and a very light cell-wall. It should be remembered that this is extremely important to do away with the fish-bone in the comb honey, even when using it in full sheets in the sections. The successful manufacturing of such foundation, about 10 to 12 square feet to the pound, is one of the improvements of the last few years, and is no longer a doubtful question.

Mr. Muth said that Mr. Dadant's essay was so complete that it needed no discussion. He endorsed every word of it.

By request the subject of "Robbing" was discussed.

Mr. Wallace and Dr. Jesse Oren advised the use of coal oil; but Mr. Viallon said that neither coal oil nor turpentine would prevent the bees robbing.

Mr. Dadant said we should not allow robbing to commence, by keeping the apiary free from exposed honey.

Mr. Hart stated that he had always been able to stop robbing by the use of wet cloths and spray. He described a case in which several of his hives containing colonies were smashed during a gale, by pine trees falling upon them. He was away for 3 days thereafter, and upon his return he found a case of robbing, of the worst kind, which he succeeded in subduing by contracting the entrances of the hives with wet cloths so that but one bee could pass at a time, each having to crawl over a part of the wet cloth. He also used a fountain-pump for spraying the bees that were still in the air. Mr. Hart believes that water rightly used will answer all purposes.

As it was proposed to have the members of the Congress photographed in a group, the Congress adjourned till 3 p. m., and repaired to the Horticultural Hall and sat for the photographs, about 50 of which were ordered by those present.

At 3 p. m. President Brown called the Congress to order, and an essay was read from Prof. Hasbrouck, Bound Brook, N. J., on

CHESHIRE'S TREATMENT OF FOUL BROOD.

I think that it will not be disputed that the investigations and discoveries of Mr. Frank Cheshire are the most important discoveries to bee-keepers which have been made in a generation, and one of the most remarkable achievements of scientific investigation on record. When similarly intelligent, thorough, and successful work shall be put upon the life-history of the germs which undoubtedly produce many of the most terrible of human diseases, the specific modes of destroying them will soon be developed, and such scourges as Asiatic cholera, diphtheria, yellow fever, and small-pox, will soon lose their terrors to our race. Moreover, these investigations of Mr. Cheshire will make it more easy for himself, or other observers, to find out the mysteries of other related organisms destructive to man and the higher animals.

I have nothing to offer in verification of Mr. C.'s observations, or in demonstration of the efficacy of his method of treatment, but I promise myself the pleasure, another season, of trying to see what he has seen, and to give his cure a thorough test, for which material has been promised me. In the meantime, although I am not so constituted as to appreciate highly "internal evidence," yet I can very easily see in the reports of these investigations "internal evidence" enough to be overwhelmingly convinced of the genuineness of the discoveries, and of the absolute certainty of his method of cure. Can it be possible that a man of such well trained powers of observation was deceived in the thoroughness and permanency of the numerous cures which he has reported with such minute detail, and with such conscientious faithfulness? His cures have been sufficiently numerous to prove conclusively, if they are admitted to be genuine, that the remedy is absolutely unfailing. Can anybody believe that a man of his character would invent all these tales of investigation and experiment for a newspaper sensation, as that ape, Wiley, did his story, for a "scientific pleasantry?"

Some may say that talk on this subject would be more in order after we had all proved Mr. Cheshire's conclusions accurate, but I fear that many whose bees are afflicted with this terrible pest, are in danger of being influenced by croakers to put off indefinitely the energetic trial of the remedy, which I am persuaded will free them from their troubles very early in the next season. I suppose there always will be croakers. Some one once said to President ——, "Do you know that Charles —— doesn't believe the bible?" "Very likely," said the President, "He didn't make it." Much skepticism on matters in general is inspired by a similar spirit. Whenever anything new and useful is discovered, there are always those who, without any consideration, are ready with an "I don't believe it." Sometimes they attempt to verify conclusions or to follow processes, with a disposition to be a little better pleased to fail than to succeed, so that they can demonstrate their foresight, and have the satisfaction of saying, "I told you so," "all a fraud," "another humbug."

Now, quite as should have been expected, several parties both in England and America, have already come forward, declaring that they have tried the phenol cure, after Mr. Cheshire's directions, of course, and they did not succeed. Now, put the statements of these men, over against Mr. Cheshire's, that he has cured numerous colonies, and without a failure, and which deserves the greater credence? What do these reported failures prove? To me, conclusively, that the treatment has been carelessly or awkwardly applied, and probably with some improvements suggested by the wisdom of the operator.

What is the proper course to take for those having foul brood in their apiaries? Go slow, as advised by some of the bee-papers, and potter along with the old treatments till the season is past, with much trouble and loss and uncertainty about the result? This would remind me of the story of the philosopher who spent much time in filtering the water from the brook near his cabin, when, if he had gone up-stream a little way, with a little trouble, he could have fenced out from the spring the hogs whose wallowing made the water muddy.

My advice to all having a trace of foul brood in their apiaries, is to disregard croakers and get to work at it by the Cheshire method as early in the spring as possible, and to keep at it in earnest till the thing is cleaned out. If you seem to fail in any case, conclude that it is from some oversight of yours, and try it over until you get everything as it should be, when I am confident you will succeed.

I am a little afraid that the uncertainty manifested as to exactly what is meant by absolute phenol, which is the remedy recommended, may lead to some trouble. Phenol has been called pure carbolic acid; so it is according to Fown's, and that is authority. One explains it this way: The drug is called phenol in England, carbolic acid in this country. That is not exactly the way I understand it. What is found in crystals in the drug trade in America and in England, too, I think, and called carbolic acid, is not "pure" carbolic acid —not phenol. Mr. Cheshire says, as I understand it, that this will "not" do. Absolute phenol can be obtained in this country, I think, only at laboratory supply dealers in the large cities. But if there is a demand for it, the druggists will soon have it, and reliable parties will undoubtedly advertise to furnish it by mail or express, on reasonable terms.

Mr. A. I. Root, of Medina, O., gave a lengthy address on "The rise and progress of apiculture in America," mentioning many interesting incidents in the history of the past 25 years, which he was requested to write and publish in full.

Mrs. Harrison mentioned an additional historical fact that Mr. Godfrey, of Red Oak, Iowa, a mail agent as well as a bee-keeper, suggested the way to obtain a reversal of the decision of the Postmaster General, and to admit of queens being sent by mail.

T. G. Newman remarked that this occurred when he was President of the National Society, and it took a united effort to get the matter through. Prof. Cook obtained the assistance of several officers of the general Government, and by a personal application to the P. M. General, got the thing through.

Mr. Root exhibited and described a simplicity wired frame, made to *reverse*.

Rev. L. Johnson made an eloquent speech in favor of bee-keeping as a pursuit for women and disabled soldiers, etc.

Mrs. L. Harrison said that she knew that women could keep bees, but she did not know that "ladies" would do so.

Mr. Muth remarked that adulterated honey was doing us much harm, and lessened the prices which we can procure.

Mr. Viallon made some remarks concerning the composition of honey.

The committee on resolutions reported the following, which were adopted :

RESOLVED, That we, the members of this Congress, discountenance in every way the adulteration of honey, and pledge ourselves hereafter, as heretofore, to sustain the honest bee-keeper in producing his genuine, unadulterated product; and especially to condemn all the work of adulterators as injuring both the public and bee-keepers generally.

RESOLVED, That it is the opinion of this Congress that the Italians are superior to the brown or native races of bees.

RESOLVED, That this Congress hereby tender its thanks to the managers of the World's Centennial Cotton Exposition for the many courtesies extended to it during its sessions in this city.

The following essays were read and placed on file, to be published as opportunity may be found :

"Bee-Keeping as a Pursuit," by Arthur Tood, of Pennsylvania.
"The Apiary," by J. E. Pleasants, of California.
"Can a Locality be Overstocked?" by John Y. Detwiler, of Florida.
"Honey Resources of Napa County, Cal," by J. D. Enas, of California.
"Honey Production of Tennessee," by W. P. Henderson, of Tennessee.
"Honey Resources of Virginia," by J. W. Porter, of Virginia.
"Honey Products of North Carolina," by A. L. Swinson, of North Carolina.

Farewell addresses were made by T. G. Newman, S. C. Boylston, Rev. L. Johnson, Paul L. Viallon, C. F. Muth, A. I. Root, R. Grinsell, etc.

The Congress then adjourned *sine die*.

THOMAS G. NEWMAN, *Sec.*
J. P. H. BROWN, *Pres.*

* * *

☞ The Sixth semi-annual meeting of the Western Bee-keepers' Association will be held in Unity Chapel, at St. Joseph, Mo., on Felix St., between 7th and 8th streets, on Thursday and Friday, April 9 and 10, 1885, commencing at 10 a. m. on April 9. All interested in bee-culture are invited to attend and make the meeting as interesting as possible. A full programme will be prepared and a general good time may be expected.

C. M. CRANDALL, *Sec.*

SELECTIONS FROM OUR LETTER BOX

Bees Doing Well.—Daniel Brothers, Sarahsville,⊶ Ohio, on Feb. 25, 1885, says :

We have had cold weather all through the month of February, the mercury reaching 10° below zero. The bees on the summer stands are apparently doing well, so far, where they have plenty of good honey stores. I have 20 colonies of Italians, blacks, and hybrids that, so far as I can tell, are doing well.

Bees Affected with Diarrhea.—I. N. Bayles, (33—55), Urbanna,⊶ Iowa, on Feb. 23, 1885, says :

A few years ago I bought 4 colonies of bees and increased them to 7 colonies. I left them on the summer stands, and lost all of them. I thought that where a man lost his money, there was the place to look for it; and so I bought again, and started in the spring of 1884 with 33 colonies, increased them to 55 and sold $132 worth of honey, being an average of $4 per colony. Last winter I lost 17 colonies out of 48, and I think my loss will be as great this winter. My bees have the diarrhea now, and many of them are in bad condition. They have not had a flight since Dec. 1, and I think that it will be 3 weeks before they can have another, as the snow is very deep yet. I think that this has been the coldest winter that I have ever seen. I am taking the assessment of our township, and the census also, and when I get through I will report the number of colonies of bees in this township, and their products.

Report, etc.—C. W. Young, Stratford, Ont., on Feb. 23, writes as follows :

The months of January and February have been the coldest known for years in Ontario, and probably in the Northern States, also. The mercury has been below zero on all except 2 or 3 days, and has marked as low as 23° or 25° on several occasions. Reasoning from the last cold winter—1881, I believe—there should be a decimation of bees. I have about 20 colonies, all outside ; a few are in chaff hives, the rest in single-walled hives, around which a shed of rough boards was built, with 3 or 4 inches of shavings packed around them. A second story was put on and half filled with shavings, and the cover on top. I examined several colonies, to-day, and found no dead ones, so far. It may interest bee-keepers who are printers as well, to know that honey is a good substitute for glycerine in making rollers. I made a set of rollers recently, using equal weights of white glue and late fall honey—hardly fit for table use—and the result was very satisfactory ; in fact they are the best rollers that I have made for years. The honey is worth probably 6 or 8 cents a pound, and glycerine costs 30 or 40 cents per lb.

Queen-Excluders.—Dr. G. L. Tinker, New Philadelphia,⊶ O., writes :

On page 101, and in the third column of my article I am made to say that "I also advise the use of queen-excluders on all colonies," etc. Upon all new colonies or swarms I certainly do, where few brood-combs are allowed ; but upon colonies having ten or more brood-frames they are not at all necessary ; yet if they were so used, it is certain that they are no hindrance to the work of the bees in supers.

Destroying Ants.—Wm. McKenzie, Eden, Ont., requests thus :

I would like some remedy for destroying ants. In the Weekly BEE JOURNAL for 1884, I read of one bee-keeper who poisoned them, but he did not state what kind of poison he used, nor how he prepared it.

[Sprinkle salt wherever the ants are found, and they will soon cease to be troublesome.—ED.]

Bee-Hive Factory Burned.—Paul L. Viallon, Bayou Goula,♀ La., on March 2, 1885, writes as follows :

After my pleasant meeting with the many bee-keepers in New Orleans, I returned home on Saturday morning, and the same night at 11 p. m. my bee-hive factory burned down. It was a complete loss, amounting to over $3,000, as I had no insurance on it. I will rebuild at once and put in new machinery, but it will be three weeks before I can fill any orders.

Tin Rests for Frames.—A subscriber makes the following request :

On page 102, Mr. G. M. Alves describes a T-shaped tin rest for his reversible frame. I have found great difficulty in trying to get at something speedy and simple with which to make them. If Mr. A. or any other correspondent of the BEE JOURNAL will kindly suggest some plan, through the columns of the BEE JOURNAL, I will consider it a very great favor.

Severe Winter for Bees.—Thos. Gorsuch, (50—70), Gorsuch,⊙ Pa., on Feb. 27, 1885, writes thus :

I have read the different opinions and remedies for the bee-diarrhea, yet I have not been able to discover the real cause or cure. I am of the opinion that it is with the bees as with poultry—mixing up different races makes them more susceptible to disease. This has been a severe winter for bees, yet mine are wintering well. They had a good flight on Feb. 25, and out of 70 colonies only 2 have died. I prepared one colony as requested by Mr. W. F. Clarke, in order to give his theory a trial, and so far it is ahead as regards quietness, cleanliness and loss of bees, the only trouble being that the bees would get down into the "hopper" and get lost ; but I remedied this by putting a wire-screen on a slide on the lower end. I winter my bees on the summer stands, which I much prefer to cellar wintering.

Losses will be Heavy.—7—A. D. Stocking, (65—80), Ligonier,δ Ind., on March 3, 1885, says:

This has been a very severe winter—said to be the severest in 40 years—and it has been hard on the bees, and the losses are going to be the heaviest ever experienced in this section. Those who did not prepare their bees for winter will lose all, or nearly all. Owing to poor health last fall, I could not prepare all my bees for winter, and I shall lose quite heavily. Those that were prepared are apparently all right yet. We had two fine, warm days last week, and the bees had a good flight, and there did not appear to be much diarrhea. I covered the ground around my hives with straw, to keep the bees from the snow as much as possible.

Pleased.—S. Hinman, (49—72), Dundonald, Ont., writes thus:

I have taken the Weekly BEE JOURNAL since it began, and I am very much pleased with it. I have nearly every number on hand, and I have a special index, made by myself as it came along, of articles of interest to me, so that now I have a volume of authority on any subject in bee-culture of which I may need information in working my apiary, which I run in connection with my farm. I consider that the information which I have received from the BEE JOURNAL has repaid me many times over for the cost of procuring it.

Bees Dying Fast.—H. L. Wells, (17) Defiance,~○ Ohio, on Feb. 23, 1885, writes thus:

This has been a terrible winter on bees and they are dying off very fast in this part of the country. However, so far, I have lost but one colony out of 18, and that was the result of an experiment. I tried to winter them on honey-dew and it proved unsuccessful. I use double-walled hives and feed plenty of sugar syrup. Several of my hives are pretty badly spotted, and if the weather does not get warmer in a few days, the consequences may not be very encouraging. A few bees flew to-day, for the first time in 6 weeks, and the greater part of the time the mercury was from zero to 28° and 30° below. I winter my bees on their summer stands.

Roses Among the Thorns.—James Heddon, Dowagiac,♀ Mich., writes as follows concerning the results of the present winter:

"This is the winter of our discontent;" and this is also the winter that tests our various experiments. From the "thorns" of this unprecedented season, let us pluck the "rose" of truth regarding the cause of bee-diarrhea, if possible. I am confident that many are experimenting. Now, let us lay aside all prejudices and desires in the matter until we have carefully sifted the true relation between causes and effects. Let us remember that the true scientist follows truth, utterly regardless of where she leads. Recently I have twice examined my colonies, and while I, like others, have met with disaster and loss among certain divisions of my apiary, I am cheerful, with the firm belief that I have already sufficiently neared the goal of the problem of all apicultural problems, that I need not, in the future, lose any more colonies during winter. Later, full reports will be in order.

Local Convention Directory.

Time and place of Meeting.

1885.

Mar. 14.—Nemaha Co., at Johnson, Neb.
R. Corgell, Sec., Brock, Neb.

Mar. 26.—Tuscarawas Co., at New Philadelphia, O.
Geo. F. Williams, Sec., New Philadelphia, O.

April 3.—N. E. Kansas, at Hiawatha, Kans.
L. C. Clark, Sec., Granada, Kans.

Apr. 9, 10.—Western, at St. Joseph, Mo.
C. M. Crandall, Sec., Independence, Mo.

Apr. 11.—Wabash County, at Wabash, Ind.
Henry Cripe, Sec., N. Manchester, Ind.

Apr. 25.—Union, at Earlham, Iowa.
M. E. Darby, Sec., Dexter, Iowa.

Apr. 28.—DesMoines County, at Burlington, Iowa.
Jno. Nau, Sec., Middleton, Iowa.

May 4.—Linwood, Wis., at Rock Elm Centre, Wis.
B. Thomson, Sec., Waverly, Wis.

May 7.—Progressive, at Bushnell, Ills.
J. G. Norton, Sec., Macomb, Ills.

May 28.—N. Mich. Picnic, near McBride, Mich.
F. A. Palmer, Sec., McBride, Mich.

June 19.—Willamette Valley, at La Fayette, Oreg.
E. J, Hadley, Sec.

Dec. 8—10.—Michigan State, at Detroit, Mich.
H. D. Cutting, Sec., Clinton, Mich.

☞ In order to have this table complete, Secretaries are requested to forward full particulars of time and place of future meetings.—ED.

Special Notices.

☞ The books of the Bee-Keepers' Supply Co., of New Comerstown, O., were opened on Monday, Feb. 23, and at this writing (Feb. 27), nearly one-half of the stock is subscribed for. Stock has been taken by bee-keepers from 8 different States. Those who have not received a letter of information as to the management of this Company, will confer a favor by sending their names and addresses to the above Company.

Mr. Shoemaker, the manager, says: "Having been advised by some of the leading bee-keepers of the United States, I have organized the above Company, for the following reasons: In the 1,500 shares, we expect to have at least 1,000 bee-keepers interested, and it is specially desired that each stock-holder sell our goods in the community where he resides, to whom will be given special rates. Being supplied with sufficient capital, we can buy our lumber by the cargo, and thus not only supply ourselves with goods at a low price, but we can supply thousands of others, and thereby save money on our own goods, besides making a good profit on the amount we have invested in stock. This Company was organized for profit to its stock-holders, and will be controlled by them."

CLUBBING LIST.

We will supply the **American Bee Journal** one year, and any of the following Books, at the prices quoted in the last column of figures. The first column gives the regular price of both. All postage prepaid.

	Price of both.	*Club*
The Weekly Bee Journal,	$2 00..	
and Cook's Manual, latest edition	3 25..	3 00
Bees and Honey (T.G.Newman) cloth	3 00..	2 75
Bees and Honey (paper covers)	2 75..	2 50
Binder for Weekly Bee Journal	2 75..	2 50
Apiary Register for 100 colonies	3 25..	3 00
Dzierzon's New Bee Book (cloth)	4 00..	3 00
Dzierzon's New Book (paper covers)	3 50..	2 75
Quinby's New Bee-Keeping	3 50..	3 25
Langstroth's Standard Work	4 00	3 75
Root's A B C of Bee Culture (cloth)	3 25..	3 10
Alley's Queen Rearing	3 00..	2 75
The Weekly Bee Journal one year		
and Gleanings in Bee-Culture (A.I.Root)	3 00..	2 75
Bee-Keepers' Magazine (A.J.King)	3 00..	2 75
Bee-Keepers' Guide (A.G.Hill)	2 50..	2 35
Kansas Bee-Keeper	3 00..	2 75
The Apiculturist, (Silas M. Locke)	3 00..	2 90
The 6 above-named papers	6 50..	6 00

THOMAS G. NEWMAN,

925 West Madison Street., **Chicago, Ill.**

☞ Our rates for two or more copies of the book, "Bees and Honey," may be found on the Book List on the second page of this paper. Also wholesale rates on all books where they are purchased "to sell again."

Farmer's Account Book.

This valuable book contains 166 pages, is nicely printed on writing paper, ruled and bound, and the price is $3.00. We will club it and the Weekly BEE JOURNAL for a year for $4.00. If you have already sent us $2.00 for the Weekly BEE JOURNAL for a year, we will send the Book for another $2,00, making $4.00 in all. If you want it sent by mail, add 20 cents for postage.

We can supply these books at the publisher's price, or will make a **present** of one copy for every club of TEN subscribers to the Weekly BEE JOURNAL for one year, with $20. Four subscribers to the Monthly will count the same as one for the Weekly.

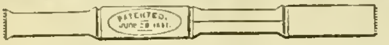
Now is the time to get up Clubs. Who will work for a copy of this valuable book.

☞ We often get a number of notices and advertisements on Mondays, intended for the next BEE JOURNAL. As we close the forms on Saturdays, all such notices *must be here* on Saturday morning, or cannot appear until the following week.

☞ The Tuscarawas County Bee-Keepers' Association will meet at New Philadelphia, O., on Thursday, March 26, 1885. A cordial invitation is extended to all.

GEO. F. WILLIAMS, *Sec.*

"BOSS" ONE-PIECE
SECTIONS.


PATENTED, JUNE 28 1881.

One-lb. ($4\frac{1}{4}$x$4\frac{1}{4}$)	in lots of	500 to 4,000	$5.00
Ditto	Ditto	5,000 to 10,000	4.50
Ditto	Ditto	10,000 to 25,000	4.00

The one-lb. Section is 17 inches long. For any sizes between 17 and 20 inches in length, add 5 per cent. For any sizes between 20 and 24 inches, add 10 per cent. Add the above per centage to the price of one-lb. Sections in the same quantities.

We make any size or width desired.

J. FORNCROOK & CO.,
10A4t Watertown, Wis., Mar. 1, 1885.

☞ Alfred H. Newman, of Chicago, sells the one-piece Sections manufactured by us.

---

500 Names wanted for my 18-page Illustrated Catalogue of **Bee-Keepers' Supplies** for 1885. Send for it! I can SAVE you money. HENRY CRIPE, N. Manchester, Ind.
9A4t 4B1t

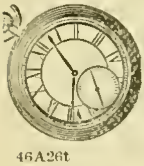
AN EXPERIENCED BEE-KEEPER

Wants a Situation in an Apiary.
10A1t E. O. TUTTLE, Hampden, Mass.

Headquarters in the West
FOR APIARIAN SUPPLIES!

Of every description. Special attention given to the **V-groove Section.** Send for our 1885 Price-List before purchasing elsewhere.

BRIGHT BROTHERS,
10D4t MAZEPPA, Wabasha Co., MINN.



We will send you a watch or a chain **BY MAIL OR EXPRESS, C. O. D.,** to be examined before paying any money and if not satisfactory, returned at our expense. We manufacture all our watches and save you 30 per cent. Catalogue of 250 styles free. Every Watch Warranted. Address

STANDARD AMERICAN WATCH CO.,
PITTSBURGH, PA.
46A26t

HELP for working people. Send 10 cents postage, and we will mail you *free*, a royal, valuable sample box of goods that will put you in the way of making more money in a few days than you ever thought possible at any business. Capital not required. You can live at home and work in spare time only, or all the time. All of both sexes, of all ages, grandly successful. 50 cents to $5 easily earned every evening. That all who want work may test the business, we make this unparalleled offer: To all who are not well satisfied we will send $1 to pay for the trouble of writing us. Full particulars, directions, etc., sent free. Immense pay absolutely sure for all who start at once. Don't delay. Address STINSON & CO.
51A1y Portland, Maine.

Bee-Keepers' Supplies.

WE have added to our LARGE FACTORY a **SPECIAL DEPARTMENT** for the

Manufacturing of Bee-Hives,

AND

White Poplar Dovetailed
Also, One and Two-piece SECTIONS.

☞ All Orders will be filled promptly at the **LOWEST FIGURES,**

Send Stamp for Catalogue and Samples.

The H. F. MOELLER M'f'g Co.
1A26t DAVENPORT, IOWA.

---

80 COLONIES of Ital. Bees for sale by lb. or colony. Simp. hives, L. frames, 9⅛x17⅝. Wired Combs built from foundation combs straight as boards. Queens and Given Foundation for sale. Send for Circular. T. H. KLOER, Terre Haute, Vigo County, Ind. 10A3t

---

New and Enlarged Edition
OF
BEES and HONEY,
OR THE
Management of an Apiary for Pleasure and Profit; by

THOMAS G. NEWMAN.
Editor of the Weekly Bee Journal.

925 West Madison Street, Chicago, Ill.

It contains 220 profusely illustrated pages, is "fully up with the times" in all the improvements and inventions in this rapidly developing pursuit, and presents the apiarist with everything that can aid in the successful management of the Honey-Bee, and at the same time produce the most honey in its best and most attractive condition.

PRICE—Bound in cloth, $1.00; in paper covers, 75 cents, postpaid.

☞ **A Liberal Discount to Dealers, by the Dozen or Hundred.**

☞ The Monthly BEE JOURNAL for a year and the pamphlet "Bees and Honey," will both be sent for $1.

THE INVERTIBLE HIVE!

INVERTIBLE FRAMES,

Invertible Surplus Honey Cases,
Entrance Feeders, Top and Bottom Feeders,
Hive-Lifting Device, Honey Extractors,
Wax Extractors, Comb Foundation, etc.

☞ My new Illustrated Catalogue is now ready, and will be mailed to all who may apply for it. Address,

J. M. SHUCK,
DES MOINES, IOWA.
10A1y

Land-Owners, Attention!

All persons who have lost Real Estate in Iowa, by reason of TAX OR JUDICIAL SALES, are invited to correspond with **BICKEL & BULL,** Attorneys at Law, 41 First Ave., **Cedar Rapids, Iowa,** and they will learn something to their advantage.

Behold this Tear!

—o—

The cause of my grief is, that Doolittle's **best**

ITALIAN BEES

compel me to work so hard to care for their surplus Honey, that I have not attained my growth, even at this advanced age of life. It is a terrible warning to all, not to get any of his **Queens!** but perhaps others tougher than I, could "stand the racket." If any think they can, **Doolittle** will furnish Queens from his **Best Stock** at the following prices:

Untested Queens, each	$ 1 00
" " per doz.	10 20
" " reared by natural swarming, each	1 50
Untested Queens, reared by natural swarming, per doz.	15 00
Tested Queens, each	2 00
" " by natural swarming, each	3 00
" " 1884 raising, sent in May, each	5 00
Extra Selected, two years old, each	10 00

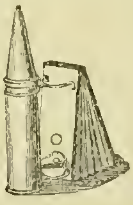
☞ If any further information is desired, send for 6-page Circular. Address,

G. M. DOOLITTLE,
10C5t **Borodino, Onon. Co., N. Y.**

SUMNER & PRIME,
Bristol, Vt.,
BEE-KEEPERS' SUPPLIES.

WE HAVE just completed our Factory, furnished it with the most improved Machinery, and are now prepared to fill all orders for **BEE-FIXTURES** of every description. **WHITE POPLAR SECTIONS** of all sizes a specialty. All orders will receive prompt attention. Send for Catalogue Price-List and samples. 10A12t

---



Bee-keepers' Supplies,

Standard Langstroth,

Quinby Standing-Frame,

And all other kinds of **Hives,**

MADE TO ORDER,

Quinby Smoker a specialty.

I shall supply anything you need in the Apiary. Send for Illustrated Price List.

W. E. CLARK, successor to L. C. Root.
7A13t ORISKANY, Oneida County, N. Y.

Muth's Honey Extractor,

Square Glass Honey Jars, Tin Buckets,
Langstroth Bee-Hives, Honey-Sections, etc.

Apply to **C. F. MUTH,**
976 and 978 Central Ave., **CINCINNATI, O.**

☞ Send 10c. for Practical Hints to Bee-Keepers.

BEESWAX.

I pay **25c.** per pound delivered here, for yellow Beeswax. To avoid mistakes, the shipper's name should always be on each package.

ALFRED H. NEWMAN,
923 West Madison St., CHICAGO, ILL.

FLAT-BOTTOM
COMB FOUNDATION,

high side-walls, 4 to 16 square feet to the pound. Circular and samples free

J. VAN DEUSEN & SONS,
Sole Manufacturers,
Sprout Brook, Mont. Co., N. Y.

---

6 SYRIAN QUEENS, $6
WARRANTED
PURELY MATED for

Single Queen, $1.25. **Tested Queens,** $3.00 each. Italian Queens at the same prices.

10Ctf **I. R. GOOD, Sparta, Tenn.**

WEEKLY EDITION
OF THE
AMERICAN
ESTABLISHED IN 1861
OLDEST BEE PAPER IN AMERICA
BEE JOURNAL
PUBLISHED BY
THOMAS G. NEWMAN,
EDITOR AND PROPRIETOR,
925 WEST MADISON-STREET, CHICAGO, ILL.
Weekly, $2 a year; Monthly, 50 cents.

Vol. XXI. March 18, 1885. No. 11.

The Honey Crop of California.

As promised last week, we give the following particulars concerning the honey crop of California for 1884, from the pamphlet of Geo. W. Meade & Co., of San Francisco. They remark as follows:

> The total output of California honey, comb and extracted, for 1884, aggregating nearly the enormous total of 9,000,000 pounds, is enough to stagger the "oldest inhabitant," and has no parallel in any portion of the world. In 1878 (considered our greatest honey year) the production amounted to about 3,000,000 pounds, which was at that time looked upon as phenomenal; yet, in the year of grace, 1884, even this vast product has been almost trebled in quantity.
>
> The total product of comb and extracted honey of the United States, exclusive of California, for 1884, is estimated at 60,000,000 of pounds, so that the single State of California has produced nearly one sixth of the entire product of the Union. San Diego is the banner county, as to quantity—with Ventura, San Bernardino, and Los Angeles following as good seconds.
>
> It may be of some interest to make a few figures as to what such an enormous body of honey represents. For instance, if this honey was all put into a certain style of bottles which are largely used here, and these bottles were placed 8 feet apart, they would reach from San Francisco around the globe and meet again at the Golden Gate. In the United States, with its 55,000,000 of people, every man, woman and child could, at one sitting, have all the California honey they would be likely to require, and yet not exhaust the product of 1884. It would require a freight train of nearly 600 solidly loaded cars to transport this product out of the State, and, if we allow the usual distance between cars, this train would be nearly 5 miles in length. Truly is this a State "flowing with milk and honey."
>
> From the outset, dealers, home and foreign, anticipated a large yield, and steadily refused to operate in any except a "hand-to-mouth" sort of way. The result was that prices for extracted honey, which opened at 6 to 6½ cents per pound, declined to 4 to 4½ cents, at which figures large export orders were sent here, and heavy shipments were made on English and Continental account. These clearances soon made heavy inroads into our stocks, and, while, there are still considerable parcels held here and there throughout the State, waiting for better prices, it may be said that the bulk of the crop has now been marketed.
>
> Some outcry has been raised in England about "glucose California honey," which is not only baseless, but senseless. The proof of this is that the article of glucose laid down in California is worth quite as much as the honey itself. Therefore, add to this cost the additional expense of tanking, mixing, the cost of new packages which would be required, all told, say 2½ cents per pound, it makes a total cost of, say 6½ cents, when the pure honey itself can be bought at 4½ cents.
>
> Do our English friends for an instant suppose that any one here would undertake an operation of that kind? The real fact of the case is that some investigation of this charge has been made from this side, and, so far as it has been possible to trace the matter, the adulteration has been performed entirely *on English soil.* We advise our English cousins, therefore, "to cast out the beam from their own eye, before they discover the mote in the eye of their neighbor."
>
> In this connection, we may add that the London *Grocers' Gazette*, in its issue of Dec. 20, 1884, just at hand, dwelling on this same subject, does our California honey the justice to practically admit that the adulteration complained of, in all probability, was performed *after the goods had left California.* If English dealers will take the *Grocers'* advice, and purchase *California honey in California*, and of well known dealers, we do not think that they will have any cause to ever complain of adulteration.
>
> Our comb honey, in sympathy with extracted, opened dull at 12 to 13 cents per pound, from which figure it declined to 6 to 8 cents. At this low price, large shipments have been made during the fall, to all of the principal Eastern markets, and, like extracted, the bulk of the comb honey crop has now been marketed.
>
> The trade in our comb honey, we believe, could be largely increased, if a one-pound section were adopted, instead of the two-pound, now so generally used. This latter size is too large for the average retailer, and the size of the case, instead of being 60 pounds, as at present, should be reduced to 20 or 25 pounds.
>
> The consumption of comb honey, as yet, is confined almost entirely to the United States, but with the exercise of proper care in handling, by the various transportation companies, there is no reason why this delicious article of food should not be as common in England, and on the Continent, as it is now getting to be in this country. We think this time will come. The quality of both our comb and extracted honey produced the past year has been superb; but the prices realized have not brought much profit to the producer. We look, however, for better things in 1885.

☞ The Lexington, Ky., *Transcript* gives the following particulars concerning Mr. William Williamson, whose death we have before noted. He was confined to his room for four weeks, and died in the 40th year of his age. He came from Scotland in 1861, and located in Lexington in 1867. In 1869, in connection with his brother, John R. Williamson, they started in business as contractors and builders, which will still be continued, the remaining brother conducting it for the benefit of the widow and orphans, "just the same as if William had lived." The *Transcript* adds:

> This is an expression of brotherly devotion that will receive the commendation of all, and all who know John Williamson are as sure that the widow and fatherless will receive every dollar of the share earned for the firm. God never created truer men than the Williamsons.

Surely prosperity must attend that business, for "a good name is better than riches."

☞ We have received a copy of the fifth edition of "The British Bee-Keepers' Guide Book, by Thos. Wm. Cowan, F. G. S., F. R. M. S., etc." It is a pamphlet of 64 pages, nicely printed and illustrated. Mr. Cowan is Chairman of the British Bee-Keepers' Association, and is good authority on apicultural subjects generally. It has had a rapid sale in England. The first edition of 2,000 copies was sold in 2 months. The author keeps it "up to the times" by re-writing much of the matter for each edition. We can send it post-paid for 50 cents.

☞ Burrell & Whitman, Little Falls, N. Y., have sent us their new book of illustrations of Cheese Factory and Creamery Apparatus. It is elegantly gotten up, and will, we think, meet the needs of the dairy public. It will be sent free upon application.

Catalogues for 1885.—We have received the following:

E. Kretchmer, Coburg, Iowa.
M. J. Dickason, Hiawatha, Kans.
James M. Hyne, Stewartsville, Ind.
John Herr & Co., Beaver Dam, Wis.
A. H. Duff, Creighton, Ohio.
J. C. Mishler, Ligonier, Ind.
John S. Collins, Moorestown, N. J.—Nursery Stock.
W. H. Spangler, Jr., Mount Delight, N. H.—Plants.

QUERIES

WITH

REPLIES by Prominent Apiarists.

Clipping the Queen's Wing.

Query, No. 33.—Is it advisable to clip the queen's wing? What has been the experience with such queens? Are they more likely to be superseded by the bees, than those having perfect wings?—Towson, Md.

Dr. J. P. H. Brown answers thus: "It is not at all advisable to clip queens' wings in an apiary where the ground swarms with ants; unless such queens with clipped wings are looked after when the bees are swarming, they may fall to the ground, and the ants will soon kill them."

G. M. Doolittle says: "After practicing the clipping of queens' wings for 15 years, I am still an enthusiastic advocate of the plan, and would as soon go back to box-hives and black bees, as to leave off the practice of clipping the queen's wing. My experience with such queens proves them just as good as those having wings, and that they are no more liable to be superseded than others."

G. W. Demaree replies thus: "Queens with clipped wings have not given satisfaction, in a general way, in my apiary; therefore I cannot advise such a course. Colonies that have queens whose wings are clipped, and those having very old queens, for like reasons, are inclined to swarm in season and out of season. Queens with clipped wings give me more trouble than do the best of flyers."

W. Z. Hutchinson remarks as follows: "Colonies with queens whose wings are clipped have given me more trouble than those having queens with unclipped wings. I am not positive that a queen with a clipped wing is more likely to be superseded, but there are some 'pointers' in that direction."

Dr. C. C. Miller answers as follows: "I should dislike very much to do without clipping my queens' wings, and I doubt if it makes any difference about their being superseded."

Prof. A. J. Cook says: "It is advisable to clip queens' wings, and often, when the bees cannot be watched, it is absolutely essential to success. It is no injury to the queens, nor does the operation make the queen any less acceptable to the bees. I have practiced this largely for 15 years, and have had many such queens remain the profitable heads of colonies for 3, 4, and even 5 years. Clipping queens' wings is not only practically valuable, but it is scientific, as I have shown in my Manual."

Dr. G. L. Tinker replies thus: "I advise clipping the queen's wing where the bee-master or an assistant can be on hand to attend to swarming. They are not more liable to be superseded if it is done properly. I clip the wing as follows: 'Take the queen from the comb by the wings with the right hand, transfer her to the thumb and forefinger of the left hand, holding gently by the thorax; then with sharp-pointed scissors clip only one of the larger wings lengthwise, taking off about $\frac{1}{3}$ or $\frac{1}{2}$ of the thin edge. If only $\frac{1}{3}$ is cut off, the queen may fly, but always alights close by on a small tree or bush near the ground. I have had several Syrian queens to fly with clipped wings."

J. E. Pond, Jr., answers as follows: "I am not an advocate of wing-clipping, and have had but little experience in that direction, simply because I find it less trouble to allow the queens to go unmaimed. I have not, however, found that those queens having clipped wings were any more liable to be superseded than others. My impression is, that superseding, as a rule, is caused by failure on the part of the queen as an egg-layer, and not on account of any clipping. I unfortunately in clipping one queen took off a leg also, but this seemed to make no difference, as she did her duty well for over 3 years, and then was lost in a swarming fit on the part of the bees."

James Heddon says: "My experience with large apiaries, continually attended during the swarming season, is, that I can get along with less labor and loss when my queens' wings are not clipped. My experience here has been that swarms having queens with clipped wings are much more liable to re-swarm. Yes, colonies will quite frequently supersede queens whose wings are clipped, though perfect in all other ways."

* * *

Comb Honey without Separators.

Query, No. 34.—Is it practicable to produce comb honey in marketable shape without the use of separators?—Pine Grove, Pa.

W. Z. Hutchinson says that "with the proper fixtures and bees it is, but it does not follow, as a matter of course, that it is advisable for every body to dispense with separators."

Prof. A. J. Cook says: "Yes, when men have learned how."

Dr. J. P. H. Brown replies thus: "It is. The sections should be from $1\frac{1}{2}$ to $1\frac{5}{8}$ inches wide. If you wish to use sections 1 15-16 or 2 inches wide, you had better use separators."

Dr. C. C. Miller answers as follows: "It is with some, and not with others. Perhaps the management has something to do with it. I have not made a success of it."

G. W. Demaree replies as follows: "With sections of proper width, and properly adjusted on the hives, I unhesitatingly answer, yes."

G. M. Doolittle remarks as follows: "Not where the sections are to be glassed; and I prefer to use them always, whether the honey is to be glassed or not."

James Heddon replies thus: "In some localities, with some apiarists and with fixtures in good shape, it has proven entirely satisfactory and practical, but there are many who will gain by never giving up the use of separators."

J. E. Pond, Jr., answers thus: "Yes, I think it is. Sections should not be over $1\frac{3}{4}$ inches in width; $1\frac{5}{8}$ would be better still. I think, however, with bee-keepers generally, it will be found far more trouble than to use separators; so much more so, in fact, that the majority will prefer to use them, and will find that it will much more than pay the difference in expense and loss in amount of honey caused by their use."

Dr. G. L. Tinker replies as follows: "It is practicable to produce comb honey in marketable shape without the use of separators, but not in a case 12 inches or more in width. I succeed admirably with a case 9 inches wide and holding 24 one-pound or 18 two-pound sections, if the foundation starters are fastened rightly. With me, separators are a nuisance."

* * *

How to Ripen Honey.

Query, No. 35.—What is the best plan of ripening honey? Here, we cannot afford to wait until it ripens in the hive, as the bees would remain idle too much of the time.—New Roads, La.

G. M. Doolittle says: "Put it into 300-pound tin cans, or vessels of any kind or capacity, having such vessels in a room whose temperature can be kept at 90° to 100° for a month or so, leaving the top of the can open. Tie cotton cloth over the top to keep out dirt and flies."

G. W. Demaree answers as follows: "Leave it with the bees to evaporate it. Adopt the 'tiering-up' system, and your bees will not have to remain idle a moment. They will at the same time gather honey, and finish up that which has already been stored."

James Heddon replies thus: "In large apiaries run exclusively to extracted honey, I think the right method of artificial evaporation will prove in the future to be the best and most successful plan; but for a less number of colonies, it will be best that the bees ripen the honey, and, by a proper management of the 'tiering-up' plan, no time nor honey need be lost to the bees."

W. Z. Hutchinson remarks as follows: "I have had no experience in ripening honey outside of a bee-hive, except by exposing it in open vessels covered with muslin to exclude dust. I think that ripened by the bees is of finer flavor. If it is desirable to ripen it artificially, the evaporation can be greatly hastened by allowing the honey to slowly run from one large sheet of tin to another, from that to another, continuing this until it has passed over a sufficient number of sheets to bring it to a proper consistency. The sheets of tin can be arranged above each other."

Prof. A. J. Cook says: "Honey kept in a warm room in open vessels (the more shallow the better), with a cloth over them to protect from dust, for 2 or 3 months, will be ripened just as well as in the hive. At least I can find no one who can tell which is which. Our bee-house is single-walled, and gets very warm in June, July and August. We find that in our dry atmosphere, the honey evaporates thoroughly in this house with no extra heat. I would never let the honey remain to be capped, but I would always keep such honey in a dry, warm room, and never sell it until it was thick."

◆

Reversing Brood-Frames.

Query, No. 36.—Are the advantages to be gained by reversing brood frames with brood, sufficient to encourage a general adoption of the practice?—Pine Grove, Pa.

Dadant & Son say: "No."

G. W. Demaree answers: "No."

W. Z. Hutchinson replies thus: "I have never used them, but they are growing in public favor, which shows merit."

Prof. A. J. Cook says that "it may be a little early to speak *ex cathedra;* but it certainly looks that way decidedly."

James Heddon remarks thus: "I think that all the advantages derived from the reversal of brood frames, more than pay for having that style of frame, if such style is not too expensive or complicated. There is a wide future before this problem, and one mostly unexplored."

J. E. Pond, Jr., answers as follows: "Much will depend upon surrounding circumstances and conditions. If cheap and practical frames can be devised, they will probably be found of great advantage in large apiaries. In my own, I tried them one season and made up my mind that they were indispensable. The next season the yield of honey was far different, and I found I could accomplish the same results by the use of an extractor. When a really practical reversing frame is devised, that can be furnished at a slight advance in cost over the common frame, my advice will be to those who are stocking up anew, to procure them; then they can take advantage of them (if there is any to take), or run them without reversing, as they choose."

◆

☞ We often get a number of notices and advertisements on Mondays, intended for the next Bee Journal. As we close the forms on Saturdays, all such notices *must be here* on Saturday morning, or cannot appear until the following week.

◆

☞ To give away a copy of "Honey as Food and Medicine" *to every one who buys a package of honey*, will sell almost any quantity of it.

CORRESPONDENCE

Explanatory.—The figures before the names indicate the number of years that the person has kept bees. Those after, show the number of colonies the writer had in the previous spring and fall, or fall and spring, as the time of the year may require.

This mark ☉ indicates that the apiarist is located near the centre of the State named: ♂ north of the centre; ♀ south; O+ east; +O west; and this ♂ northeast; ~O northwest; O~ southeast; and ♀ southwest of the centre of the State mentioned.

For the American Bee Journal

"The Use of Drone-Traps."

CHAS. DADANT & SON.

There are "many men of many minds," indeed, and if we all agreed about every thing it would be hardly worth while to write. As a matter of course, in reply to Mr. Alley's article on page 105, we will "back up" what we said in regard to drone-traps, although we were not thinking about Mr. A. when we answered Query No. 5, and do not wish to displease any one.

To begin with, let us state, that in bee-keeping as in every business, the aim ought to be to secure the largest result with the least labor and expense. Mr. Alley does not seem to be in the habit of replacing, in his hives, the drone-comb by worker-comb, for he writes: "Would it not be a pretty job to go over 100, or even 50 colonies of bees and cut out the drone-comb and fill the places with comb foundation?" Yes, this is a small job; but after experiments, we consider this one of the most important in the bee-business, and have had it done on more than 500 colonies. As a matter of course, it cannot all be done in one day, and it can be done more easily with worker-comb than with foundation, if comb can be had. Our instructions to our men are, as soon as they detect some drone-comb in a hive, to put it at the outside of the other combs, so as to have it on hand when preparing bees for winter, or at the spring visit. Of course when this comb is once detroyed in a hive and replaced by worker-comb, it is done for ever; for bees do not change worker-comb to drone-comb. We have some colonies in Quinby hives, which, in 10 years, have not reared 500 drones. Sometimes, when a queen is old or sick, or when she lays her first eggs, she lays drones in worker-cells; but the small drones reared would pass through the holes of a drone-trap.

The removal of drone-comb is worth many dollars to the bee-keeper, for 32 drone-cells occupy as much space as 50 worker-cells and one whole comb, or 150 square inches, would produce 5,000 drones instead of 7,500 workers. When we consider that such a change, the rearing of workers instead of drones, can be effected in a few minutes, at a trifling expense, we can but wonder that such an experienced bee-keeper as Mr. Alley seems to be reluctant about it.

Indeed, his drone-trap catches the drones; but when it removes them, they are full grown; the honey which they have absorbed is gone; the number of workers in the hive is not so large as if the combs had all been worker-combs; and the honey-crop is from 6 to 10 pounds smaller each year than it should have been, had all the drone-comb been removed. Besides this loss, it is less work to replace, once for all, in a hive the drone-combs by worker-combs, than to keep a drone-trap in front of the hive, and clean it out once or more every week during the summer. But, Mr. Alley says that the bees will rear drones in the surplus boxes. No! not if you fill the surplus frames with worker-combs.

Mr. Alley, who rears four kinds of bees in the same apiary, finds profit in using drone-traps or drone-excluders, but who besides him or a queen-dealer, makes such a business? Such traps for honey-producing bee-keepers would be a nuisance; for in summer they prevent the easy ventilation of the hive, for with them it is impossible to ventilate sufficiently to keep the bees from laying out. Thus the bees are more inclined to remain idle or to swarm on account of the increase of heat of the inside. To prevent this excess of heat, we not only raise the hives from the bottom-boards, but we often put the surplus boxes back half an inch or so to allow a draft through the brood-chamber during the hottest weather. Of course such an arrangement prevents the use of the drone-trap.

If one's neighbor is careless and has impure bees, he will rear drones by the thousands. What profit will be derived from the drone-trap in such circumstances? A few years ago we had all pure bees; one of our neighbors brought, in May, 45 colonies of black bees to within 1½ miles from our apiary. Some of his hundred thousands of drones met with our young queens. Where would have been, to us, the use of drone-traps in our apiary?

There is an easy way of improving an apiary without the use of drone-traps. If we have 2 or 3 good queens we can rear lots of queen-cells; Mr. Alley, in his book, gives us an excellent method for this. By giving a sheet of drone-comb to one of these queens, and removing the drone-comb from other hives, we will in a short time replace all worthless queens and attain the same result as by the use of drone-traps, at the same time saving a great deal of waste, as we said before.

To sum up: A careful bee-keeper can rear only the drones he needs without the use of drone-traps in his own apiary, and a careless bee-keeper will not succeed with drone-traps because he will neglect them like everything else.

Drone-traps are a nuisance:

1. Because they do not prevent the rearing of drones.

2. Because they decrease the ventilation at a time when it should be increased to such an extent as to allow all the bees to stay inside and not lay out.

3. Because they do not prevent the mating of queens with drones from the neighborhood.

4. Because they expose the queen to be mained or killed by her bees, since they prevent her from leaving the hive with the swarm.

5. Because the presence of the drone-trap, when first placed, annoys the bees and causes them often to go to the wrong hive.

6. Because they have to be cleaned often.

7. Because you cannot inspect them in several apiaries conducted under our method.

8. Because they cost money and do not yield as large profits for the expense as the method of replacing drone-comb with worker-comb in all hives except those in which it is found advisable to rear drones.

Hamilton, Ills.

* * *

For the American Bee Journal.

Almost Indigestible Apiarian Hash.

JOSHUA BULL, (12—27).

On page 73, Mr. Allen Pringle expressed himself much amused upon reading what he styled my "lament over the oblique philosophy and practical contradictions of our most modern bee-keeping;" and he seems to think that I have fallen into despair amidst the perplexity and maze of inextricable difficulties which surround me; and, therefore, extends his friendly sympathy and advice to cheer me up and give me fresh courage. I am very grateful to Mr. P. for his kind sympathy and advice.

Although myself was not aware
That I was laboring in despair;
But hoping for success.
And when by books I cannot know
Just what to do, or how to go,
I venture, then, to guess!

My notions are quite in harmony with Mr. P.'s advice, when he says: "After digesting the 'hash' placed before you, follow your own judgment." This is just precisely what I have been trying to do, but it is not an easy task for me to digest some of the "hash" so as to make it useful in forming a settled judgment. The reasons given by Mr. P. as the cause of "so much divergence of opinion and contradictory advice" may be very logical and correct to some extent, but they do not explain the whole of the muddle. What appears to me to be one great source of difficulty is, that some people are prone to "jump" at conclusions concerning things which they cannot comprehend, pen down those conclusions, and send them abroad as facts, when they are grossly mixed with error. A man may reason well so far as he is master of his subject, and comprehend fully what he wishes to explain; but when he ventures beyond the limits of his knowledge, he is mentally in the dark; "and if the blind lead the blind, shall they not both fall into the ditch?"

The elements necessary to success in any undertaking are, a clear understanding of what needs to be done, and then to know how to perform the needful labor, and the best means to make use of to secure the desired results. Hence, it is essential that we should understand the relations of "cause and effect," and be able, so far as is possible, to trace out the original cause from present effect, and *vice versa;* and by means of such knowledge we may be able, to some extent, to apply cause to produce desired effect. When we can do this successfully, we may congratulate ourselves that we are on the road to prosperity; but in the management of the apiary there are so many varied circumstances which may affect the *modus operandi*, that it renders the business very intricate, and, consequently, extremely difficult to form any set rules which would insure success every time, and under all the divers conditions which arise from circumstances beyond our control; therefore, the necessity of being able to judge for one's self what is best to do under the exigency of the case in hand.

While thus relying in some measure upon our own judgment, we should not "dump all the authorities in a corner," as Mr. P. says he did, and not read them at all, but we should peruse them carefully, and if we do not wish to follow their directions in all their details, we may extract therefrom such ideas as commend themselves clearly to our comprehension, which may materially aid us in forming correct conclusions of our own; and by studying thoughtfully the "natural instinct" of the industrious little bees, their needs and requirements, and withal, by having a free interchange of thought, would, no doubt, substantially improve our judgment and increase our knowledge of "bee-lore." While we thus compare our ideas, one with another, let us all be willing to submit to friendly criticism, even if it should seem to obliterate some of our cherished theories. Let the truth come to the front and stand conspicuously there; for truth will triumph, whether we consent or not.

In the last paragraph of Mr. P.'s article, I think that he over-reached himself, and has "gone wide of the mark;" at least he does not make clear to my understanding what he asserts to be true; viz: "It is certain that Nature abounds in monstrosities and imperfections, and we are continually improving upon her works and methods." Now, Mr. Pringle, allow me to admonish you not to be too hasty in your conclusions about these things, but, "come and let us reason together." That monstrosities do sometimes appear among the things of Nature, I do not attempt to dispute for a moment; but it does not necessarily follow as an inevitable conclusion that those monstrosities are the legitimate results of faulty instinct or imperfections in the laws of Nature; but rather that those laws have been intercepted and obstructed in their functions, and diverted into miscarriage and unnatural productions. Such monstrosities can never change the immutability of Nature or Nature's laws. Now, if any one can show us wherein they "are continually improving upon her works and methods," and can furnish conclusive evidence that they have made real, genuine improvement, why, then, we will "render honor to whom honor is due." But we want to know what those improvements are, and what they consist in, so that we can all avail ourselves of their benefits. One might think that he had improved upon Nature's method, when, in fact, he had only improved upon his own method of utilizing Nature.

Again, he says, "Allow me to give here one instance of imperfect instinct out of many that I have noticed." He then proceeds to relate an incident which transpired under his own observations, the circumstances of which he seems to consider as proof positive that his "foolish bees" were blindly going headlong to destruction. It may be due to my dullness of perception or lack of understanding, but in my opinion the evidence given in this instance does not justify his conclusions—nay, far from it; but on the contrary, it is an attestation of their instinctive foresight and prudence, in providing as best they could against a possible emergency. They seemed to know that their queen was liable to fail them at any time, and if she was already "in the dumps in the corner," they certainly had cause for alarm, and would have appeared very foolish indeed if they had stood by and looked idly on without doing anything to save themselves from annihilation. The only thing which they possibly could do in that direction was to rear another queen whilst the means for doing so were yet within their reach. If their feeble mother would not lay any drone eggs for them to rear drones for fertilizing the young queen, they could not help that; they were doing all that was in their power to do for "self-preservation." Now, take notice, they had not destroyed their old queen, and probably had no intentions of so doing until they could get another one in condition for laying eggs for them.

So far as my limited observations go in this queen-superseding business, the bees never kill the old queen until they have another one ready and able to perform duty. In support of this view, I submit the following evidence: During last summer two of my colonies brought out their old queens and left them dead near the entrances of the hives. On observing this, I examined them immediately with the purpose of supplying them with others if they needed any; and in each case I found a vigorous young queen with a plentiful supply of fresh eggs in the combs.

Mr. Root, in his "A B C of Bee-Culture," page 5, says: "The Italians will usually have a young queen helping her mother in her egg-laying duties before she becomes unprofitable." You may ask, "How do you know that those were the old queens which were brought out dead? and that those found inside were young ones?" I know, because the old ones had their wings clipped, and the wings of those which superseded them were good and sound.

It will be seen by the foregoing that I do not admit (as Mr. P. says I "must") that he has substantiated his allegations of imperfect instinct in bees or in Nature.

Seymour,○+ Wis.

For the American Bee Journal.

Honey-Boxes and Comb Foundation.

J. H. ANDRE.

Although the science of bee-keeping has made rapid strides forward within the last 20 years, there are to-day many who are using the box-hives, and honey-boxes with one or two sides having glass slides. Much fault is found with such boxes in the market, but there are several points in their favor. They may be carried to market in any ordinary box without fear of breaking the combs, and if well sealed up with thick, gummed paper, the honey will keep through the winter without granulating, and one can afford to sell it for 1 to 2 cents per pound cheaper than the honey in small sections.

Those using such boxes will find that a neat and convenient one is made in the following manner: Take a nice white, well-seasoned basswood board 5½ inches wide and ¼ of an inch thick, planed on both sides (if but 8 feet long it can be handled to a better advantage). Cut a groove in each edge of one side 3-32 of an inch from the edge and ⅛ of an inch deep, by running each piece over a saw which just comes through the saw-table. Cut the pieces to correspond with the size of the glass (glass 4x5 inches is the best size), and nail 3 pieces together, slip the glass into the grooves, put on the other piece and nail it. Now, saw the box into two parts exactly in the centre, lengthwise, drive small brads part way in, into one of the halves, one on each side of the inner edges, and then file their ends sharp; with a sharp knife the hole in the box may be easily cut, one-half in each part. Now put a piece of comb foundation in each half of the box, a trifle the nearest to the centre, and place each half on a table side by side and press them together until the brads are driven in and the halves meet; the bees will wax up all little cracks. When these boxes are filled with honey, and you want to use it, you have two nice combs not fastened to the glass at all; the boxes can be taken apart without drawing a nail, and they may be used for many years.

If foundation is not used there is no need of cutting the boxes into halves, as the comb is usually put in diagonally, and would be broken in taking them apart. Care should be taken not to nail the box where it is to be sawed in two. The holes in the boxes and hives should not be less than one inch in diameter, and if the holes in the tops of the hives are too much filled with honey, it should be cut out each time when the boxes are changed.

I have noticed lately that some bee-keepers, or those writing on the subject, express their opinion that thick comb foundation had no advantage over thin foundation, only in holding to its place better in the brood-chamber on account of its thickness. Last season my supply of thin foundation run short and I used some very thick foundation in the honey-boxes having glass sides. I kept strict watch from day to day, and observed that the combs did not change color until the cells were drawn out half an inch on each side, thus showing that the bees were making almost the entire comb out of the foundation. When the combs of honey were cut, but little of the cells showed white, unless they were thick combs.

I do not claim that it made the honey any better, still there has been no fault found with it, and it gives only one chance for controversy, and that is, will bees make comb faster if furnished the material than they will when building it in the natural way? I am in favor of thick foundation for the brood-chamber, and medium for the boxes.

Lockwood, ♀ N. Y.

For the American Bee Journal.

Wintering the Honey-Bee.

H. B. SISSON.

In bee-keeping, as in all other occupations where life is to be cared for, a proper understanding of the great laws that govern animal existence must be considered ere it can be made a success. The wintering of the honey-bee with success, is but a common-sense view and action of these great laws. If our education has been such that we were never permitted to study from books the great principles on which animal life depend, let us go to Nature and let her be our teacher, and we cannot help but learn from the very lowest grades of Nature, that which will promote life, health and success.

If we wish the honey-bee to be healthy, able bodied and ready to work, after a long, hard winter, it must have plenty of pure air and a dry bed to sleep in. Take for example the hog, which is said to be the filthiest of all animals, yet all successful farmers understand that to have healthy hogs, they must have a good, warm bed and proper shelter. How much more does this little insect, the bee, need the best of care! This is very easily accomplished when proper shelter and correct ventilation is given it. It is no longer a question in my mind, but a well established fact, from 25 years' experience, that the bee can be successfully wintered in a good cellar. I have 250 colonies in my cellar, and when the mercury was 30° below zero, I could not go into the cellar with a light without their being all in commotion.

Ottumwa, ♀ Iowa.

For the American Bee Journal.

Reversible Supers—Passage-Ways.

C. C. MILLER, (200—299).

I studied for some time upon a plan for reversing supers, but finally concluded to try having sections filled out full by putting a narrow strip of foundation in the bottom of the section, leaving a quarter of an inch space between this and the main starter.

CONTINUOUS PASSAGE-WAYS VS. DOUBLE AIR-SPACES.

These are about as different as we are likely to get, unless some one invents triple air-spaces. It certainly seems as if the less idle space we can have in a hive, the better for the bees, at least in cool nights when a force of bees is needed to waste their time and heat in keeping warm empty space. Moreover, it seems like a good deal of hindrance to oblige the bees to travel through two or more air-spaces.

In spite of all this, after trying the double air-spaces pretty thoroughly for two years, with a hundred or more colonies, I am decidedly of the opinion that the Heddon honey-board for best results in obtaining comb honey, is at present, at least in my apiary, indispensable. So far, I have never known a queen to come up through one of these honey-boards. The space between the top-bars of the brood-frames and the honey-board is more or less filled with comb, but never in the space above; so the supers are quickly and easily lifted off or placed on with little danger of crushing bees.

How any one can rapidly handle supers with continuous passages without killing many bees is, to me, a mystery. Some one may ask me whether I have ever tried continuous passage-ways fairly. I have not; and in general would not condemn any thing untried; but it seems to me that a jury of practical bee-keepers who have had experience as to the promptitude with which bees occupy a surface where there is a fair opportunity of their being mashed, would class continuous passage-ways among the things not necesary to be tried. I am aware that at least one man for whose intelligence I have high respect, favors them; but I also know that one of the highest authorities living, the world-renowned Dzierzon, favors movable combs with only a top-bar, so that the combs must be cut loose with a knife each time they are taken out, and drawn out by hooks something like a bureau drawer, which the same jury would be likely to condemn untried.

HOW ARE MY BEES WINTERING?

I am in pretty dense ignorance as to the outcome, and will hardly be able to answer for a couple of months. They are all in the cellar (that is, in two cellars), and I do not even know how many are alive to-day. I know of one colony that is dead, and there may be others, and it will be nothing strange if a good many more die. The weather has been so cold that a wood fire was built in the stove in each cellar, daily, for about a month, and notwithstanding this, the thermometer stood, each morning, not above 36°, and sometimes at 28°. Quite a number of colonies show signs of diarrhea.

As to the cause of diarrhea, I am all at sea, but I am hopeful that in the vast amount of discussion, some light may be thrown on the subject. It seems rather strange that if any one of the theories is correct, that have been held up for some time, there have not been a number of cases in which the theory has been fairly tried and proved entirely successful in holding the dreaded disease at bay. With regard to the pollen theory, this much I know, that bees may winter well with an abundance of pollen in their hives, and that they may starve to death on combs of pollen, with no sign of diarrhea. Whether they can have diarrhea without any pollen in the hive, I am not prepared to say, and this last is, after all, the crucial test.

Marengo, Ills.

For the American Bee Journal.

It Pays to Use Foundation.

F. M. TAINTOR.

In the *American Apiculturist* for January, 1884, Mr. G. M. Doolittle says: "I think we have gone crazy over the use of comb foundation for the brood-frames." Well, if bee-keepers have, there are a great many crazy apiarists in the world. Before I began using comb foundation I seldom had a young colony fill the brood-frames full of comb during the first season without feeding to do it. I never thought of giving sections to young colonies, and I seldom had one in the fall but what had to be fed for winter, and the next season the empty frames would be filled with more or less drone-comb, if there was not a lot built during the first season. I had not used 10 pounds of foundation before I saw that it was a great help, and worth at least $1 per pound to me to use in the brood-frames.

Now, all I have to do when the bees swarm (I prefer natural swarming to increasing by division, although I practice both), is to hive them on 10 frames of foundation, and in 4 or 5 days they have it all drawn out, and are ready for the sections. The combs are all as straight as a board, and they are worker combs. Then I place the sections on, and if there is any honey coming in, the bees are ready for it.

I never had a young colony that stored a pound of surplus until I began using comb foundation, and now I have some that store from 25 to 75 pounds each, besides enough to winter on. As a general thing I found that it not only paid to use comb foundation, but that it paid to procure foundation machines and make my own. Foundation would be valuable if only used as guides in frames, as it would be a means of securing straight combs; but its real worth is the best appreciated when complete frames of it are put into the brood-nest. The value of full frames of perfect worker-comb cannot be over-estimated.

Elm Grove, Mass.

For the American Bee Journal.

The Age When Bees Begin to Work.

M. L. TRESTER, (83—202).

The following shows a test which I made to determine the age at which bees begin to work in the various branches of their industry. In making the experiment, I think that there were as many or more larvæ that died than the number of bees that hatched. From the date of hatching, it is evident that eggs were overlooked. It is also plain to be seen that neither eggs nor larvæ will live but a very short time without the attention of the bees:

On Aug. 20, I put 22 combs of hatching brood into a hive with no bees.

On Aug. 21, at 7 a. m., it was very hot in the hive, and the larvæ were dead, turning black and twisting out of the cells.

On Aug. 22, the hive weighed 38¼ pounds, and it was still hot in it, the bees could not fly, but they could sting a little. I shook about 3 quarts of bees and put a queen with them on 8 frames prepared as follows: Frame No. 1 contained foundation drawn out; No. 2, fresh comb with brood in all stages; No. 3, new foundation; No. 4, honey; No. 5, fresh comb, honey and eggs; No. 6, old eggs, and 3 or 4 live larvæ, the rest being dead and some black; No. 7, the same as No. 6; No. 8, fresh comb, honey and eggs. On this day the bees began to put dead larvæ out of the entrance.

On Aug. 23, the hive weighed 37¾ pounds; the bees were cleaning out the hive and fighting robber bees; the queen commenced to lay. In frame No. 6, the eggs were gone, and there were 2 live larvæ; No. 7, eggs were gone; and in No. 8, the eggs were hatching.

On Aug. 24, the weight was 38 pounds, but the hive was wet when weighed. The weather was changeable, the queen stopped laying, and the bees flew a little. In frame No. 2, both the eggs and the larvæ were gone, excepting a few; in No. 5 the eggs were hatching; Nos. 6 and 7, all clean; No. 8, disappearing.

On Aug. 25, the weight was 37¾ pounds. This was a good honey day, and the bees were working and carrying in pollen. In frame No. 2, the larvæ were dead in the cells; No. 5, dead; Nos. 6, 7 and 8, fresh eggs.

On Aug. 26, the weight was 39 pounds. The day was gloomy. In frame No. 5, the eggs were hatching in places; Nos. 6 and 7, plenty of eggs; No. 8, hatching.

On Aug. 27, the weight was 39 pounds. The weather was rainy. Frame No. 2 contained eggs; No. 3, foundation was drawn out; No. 5, larvæ growing and comb building; No. 6, 3 or 4 larvæ; No. 7, eggs hatching; No. 8, growing.

On Aug. 28, the weight was 39 lbs. The weather was hot and calm; on Aug. 29, weight 39¼ lbs., and the weather was warm and windy; Aug. 30, weight 38¾ lbs.; Aug. 31, 38½ lbs.; Sept. 1, 39½ lbs.; Sept. 2, 40½ lbs.; Sept. 3, 42 lbs.; Sept. 4, 44 lbs.; Sept. 5, 46 lbs.; Sept. 6, 47 lbs.; Sept. 7, 48 lbs.; Sept. 8, 48 lbs.

Lincoln, Nebr.

For the American Bee Journal.

Southern Wisconsin Convention.

The Southern Wisconsin Bee-Keepers' Association held its second annual meeting in the Court House at Janesville, Wis., on March 3, 1885. The meeting was called to order by the President, and the minutes of the previous session were read and approved. Four new members were received, and all who were present paid their dues for the ensuing year. An able essay on bee-culture was read by the President.

The election of officers for the coming year resulted as follows: President, C. O. Shannon, Edgerton, Wis.; Vice-President, Levi Fatzinger, Janesville, Wis.; Secretary, John C. Lynch, Janesville; and Treasurer, H. L. Humphrey, Janesville.

Mr. Fatzinger reported that his bees were in good condition with the exception of a few colonies affected with diarrhea, which were wintered in the cellar on honey with considerable of the so-called honey-dew. Mr. Sherman put 59 colonies into winter quarters, of which 3 are dead, 2 from starvation, and the balance of his colonies are in average condition. Mr. Pomeroy reported a loss of 8 out of 9 colonies wintered out-of-doors and packed in chaff, being the first severe loss for a number of years, when wintered in the same manner. Mr. Markham had 5 colonies out-of-doors and the balance in the cellar, all being in fair condition. Mr. Mack had 10 colonies out-of-doors (5 of which died), and 80 in the cellar. Sixteen of his colonies have the diarrhea badly. All of his bees had more or less honey-dew in the fall. Mr. Inman reported 70 colonies in the cellar, all in good condition. He has not lost any bees, for a number of years, while wintering them in the cellar. Mr. Shannon wintered 9 colonies out-of-doors, and 5 of them died; the balance of his bees were in the cellar, and some are quite restless with many dead bees on the cellar bottom. He thinks that the unusual amount of dead bees may be attributed to the fact that they were mostly old bees. In the fall there was no late breeding.

The question, "How late may bees remain in the cellar with profit?" was discussed, and it was generally conceded that under favorable conditions they might be left in until maple blooms.

The usual variety of questions were asked and discussed. One year ago this Association was organized with 13 members, and it now numbers 26, nearly all being practical and successful bee-keepers. From careful estimates it is ascertained that in our immediate vicinity there are over 200 interested in bee-culture. We cordially invite all to join us and help to make this Association second to none for mutual benefit and the promotion of scientific bee-culture.

Adjourned until the second Tuesday in May, 1885, at 10 a. m.

JOHN C. LYNCH, *Sec.*
C. O. SHANNON, *Pres.*

* * *

For the American Bee Journal.

Pollen Theory and Over-Production.

J. E. POND, JR.

Notwithstanding my last article on the subject, on page 731 of the BEE JOURNAL for 1884, there is still a radical difference between Mr. Heddon and myself in regard to the "pollen theory." In that article I suggested that the coming winter would be just the time to show whether or not all colonies (or enough of them to prove the rule) fed on sugar syrup alone, would winter without diarrhea; a far different thing from admitting that if they did it would be owing wholly to no pollen being left in their hives. I did say that Mr. H. had offered some evidence in favor of his favorite theory, but that evidence can be used also in proof of Mr. Clarke's hibernation theory, which, by the way, I firmly believe will be found to be the solution of the problem. Mr. Heddon and myself differ in this: I do not believe that the presence of pure pollen, whether sealed up as such, or found as floating particles in the honey stores, has aught to do with causing bee-diarrhea. In fact I believe that every colony will winter safely when the conditions are right, with pure pollen remaining in the hive in the ordinary quantity that is usually found at the close of the season. Allow me to ask, when or where have I ever misquoted Mr. H.? Will he please point out the spot?

He has repeatedly said that "he was sure the 'pollen theory' was correct; that the facts shown fitted that theory more closely than any other set of facts offered in proof of any other theory," etc. I am aware that he has said, "he did not know the theory to be correct," but still urged it with all the vehemence possible, even to the exclusion of other matters; leaving it to be inferred that upon the presence or absence of pollen alone depended the success or non-success of wintering. I have repeatedly said that I did not believe the theory, and I now put myself squarely on record, by saying, that when the method of positively safe wintering is discovered, it will be found to consist in some plan by which our bees can be kept in a state of quietude; in as nearly a state of hibernation as it is possible to put them. I have found it the rule in my own apiary (which, by the way, has consisted of from 5 to 50 colonies), that the colony which remained the most quiet, used up the least stores and came out the brightest in the spring. In fact, I have wintered a colony from the middle of November to the middle of February on less than 5 pounds of stores, and that on the summer stand, and during an exceedingly severe winter.

Mr. H. and myself disagree also on the question of over-production, notwithstanding that I am taunted by him as being an amateur, and only keeping a few colonies, and that as a consequence am not qualified to discuss the question. I do believe that I know something of the laws which govern supply and demand (for I have given a little attention to the study of political economy), and that I am as well qualified to discuss the matter as though I was a specialist bee-keeper, kept 500 or more colonies, believed in the right of priority of location, and the right to pre-empt all the good fields I could find, and offer for sale those I could not conveniently occupy.

I believe, too, that the matter of supply and demand for honey is governed by the same laws that govern the matter of production generally; and that the present lack of demand and consequent low prices is owing to the ignorance of bee-keepers as to the best ways and means of disposing of their crops. I may be wrong, still I am content to leave my views to the criticism of the public; feeling assured that until the production of honey gives a larger yield than less than one ounce *per capita* for the people of the country, that I shall be deemed far wrong when I say that over-production is a bugbear which this generation need not fear.

Foxboro,o+ Mass.

* * *

For the American Bee Journal.

Are Bees Taxable?

E. B. SOUTHWICK.

In reply to Mr. Unger's question, on page 88, I wish to say that as bees are qualified and not absolute property, they are not taxable without a special law to that effect made by the State (I think that Illinois has no such law); but bee-hives, combs, honey and all bee-fixings are absolute property, and any assessor has the right to assess them at their cash value, even if no other assessor in the United States does, or ever has assessed them.

As I understand it, the assessor asked Mr. U. for the number of hives, and said that he assessed them from one to two dollars each. I think that he was very reasonable and just, for it is a very poor apiary whose hives would not be worth $1 to $2 each, even if they were only used for kindling wood, the combs for wax, and the honey used in the family.

What has been done in the past should be no guide or rule for the present or future. We should have a rule of right and a principle of justice to guide us regardless of the past or future. Justice requires that all absolute property should be assessed and taxed according to its real value without any reserve whatever; and when the assessors do assess our apiaries at $1 or $2 per hive, we ought not to complain.

Sherman,o Mich.

* * *

For the American Bee Journal.

Report—Hive Door-Yards.

J. A. PEARCE.

My location is a fruit farm in Grand Rapids, Mich. I bought 3 colonies of bees for $20, last April, and moved them 10 miles. Their hives looked as if the bees had eaten too much pollen, if Mr. Heddon is correct. They were in hives with Langstroth frames and the Heddon case. We had an abundance of fruit bloom, and they soon built up strong. White clover was also very plentiful, but there was no basswood. The fall bloom was fair. They gave me a little over 100 pounds of honey to the colony, in one-pound sections, and I have now 7 strong colonies in double-walled hives, with an air-space between the walls of the hive. I have not been able to give them perfect ventilation at all times, but I think that I can accomplish it by another winter. I mean lower ventilation, as they are covered warm above with quilts, on the summer stands.

There is one subject that has not been mentioned in the BEE JOURNAL since I have taken it, that I would like to say a word about; *i.e.*, the "door-yard" to the bee-hive. The leading works on apiculture seem to attach some importance to a clear place in front of the hive, but none of them suggest any thing which has proven quite satisfactory. Prof. Cook recommends sand or sawdust; Mr. A. I. Root mentions coal cinders, and speaks of stretching a piece of canvas up to a hive raised a little on spring balances, and the bees stored as much in 4 minutes as they had before in 5. This carried to days, one can see what it would be.

After heavy rains and winds, when you look for the sand and sawdust, lo! they are not there; and when you seek diligently for them, they are not to be found, except only a little in the entrances of the hives. To remedy this, I took a little water-lime, say 1 to 5 of sand, and made a little door-yard to the hives nearly the shape of a large turtle's back. This keeps down all grass, is perfectly clean and hard, and the bees seem to like it. The most of the bee-men here have sand, sawdust, warped boards that the toads can sit under, tall grass, weeds, etc., before their hives.

Perhaps I am taking too much pains in this direction, and may be the bees will store just as much and as fine honey if they struggle through tall grass and weeds to get into their hives, as if they have a clear entrance. I would like to hear from my fellow bee-keepers what they use, and what they think is necessary, as I wish to be right. I give my bees fresh and salty water near their hives in inverted fruit-cans. They visit them a great deal, but the salty can the most frequently after being confined to their hives for a day or so in bad weather. I think that the Heddon case is just the thing. I would not give a penny each for Italian queens for the purpose of Italianizing my apiary.

Grand Rapids,+o Mich.

For the American Bee Journal.

The Pollen Theory Has Not Gone.

W. N. HOWARD.

Not long since we read the bold assertion that "The pollen theory must go;" next comes the startling announcement that "The pollen theory has gone." Tried and convicted by a court of two. Upon what? Upon unimpeachable evidence? No; for none has been given that can surmount the undisputable facts with which it has been defended, and any one who possesses average comprehension cannot fail to see that Mr. Heddon has not admitted it incorrect, as Mr. Pond, on page 90, says.

Mr. Heddon has simply said that bees can winter in a good condition with plenty of pollen in the hives if *all* other conditions are right, which statement is true, and it in no way contradicts the pollen theory; for it matters not if every other cell, in all the combs in the hive, are filled with pollen, so long as the bees let it *alone* they will, if supplied with plenty of suitable food, be just as well off as though the pollen was 5 miles away. But as we have no knowledge by which we can at all times induce the bees to let it alone while they are in confinement, they will, in a large majority of cases, partake of it to their destruction. Small-pox, as we all know, is a highly contagious disease, yet persons who never have had the disease, nor have been vaccinated, have been in attendance upon those affected with the disease without contracting it. Yet that does not alter the fact that three-fourths of the people so exposed would contract it; and because colonies of bees are sometimes wintered with pollen in their hives in a healthy condition, it does not alter the fact that pollen is the cause of diarrhea in thousands of cases. Because A can drink a pint of whisky in a few hours and show no visible effects, it does not alter the fact that half the amount taken by B would make him drunk; and because Mr. So-and-So thinks that his bees have eaten pollen, because he finds some in the hive in the spring, and his bees are in good condition, it does not alter the fact that hundreds of colonies are afflicted with diarrhea caused by eating pollen.

If a colony of bees is wintered upon stores of the best of honey and pollen, and have the diarrhea, as we all know they do, whence comes the solid particles of brownish-looking matter found in the excrement, if it is not pollen?

Mr. Pond will, peradventure, inform us that the internal arrangements of a bee are similar to those of a hen, and these particles of solid matter found in the excrement of bees affected with diarrhea, are simply small gravel-stones that the bees take into their gizzards to grind up the pollen into a suitable condition to perform its indispensable part in wintering bees in a sound and healthy condition.

The case of Dr. Miller's, mentioned by Mr. Corneil on page 56, is a fair sample of the conclusiveness of all the evidence offered by him in his article, and it only shows that the bees ate all their honey and then starved because a diet of this indispensable pollen would not sustain life long enough to develop diarrhea. The evidence on page 58, by Mr. C. L. Sweet, may convince some overwhelmingly, but it does not satisfy me. It will take more than a court of two to annihilate all the evidence and proof that has been given in support of the "pollen theory."

Derby,♂ Vt.

For the American Bee Journal.

Experience in Wintering Bees, etc.

C. M. DAVIS.

I have found that frequently a queen leaves a very small colony in the spring. I had such a one with a very prolific queen that deposited eggs quite awhile, but which never developed into bees; to-day I find them without a queen, but with queen cells started. The queen was young. I also had one of the same kind to swarm out, which I found to be minus a queen; the next day I discovered a dead queen in front of a hive that had a queen. Will some Texas bee-keeper tell me whether there will be any drones to mate with queens by March 15? I do not know how bees have wintered here, but I think there must be large losses. One bee-keeper told me that he had lost all except a few colonies. Bees did very poorly here last season. I do not see why bees should not do well here, as it is a fruit-growing section. There are apples, peaches, plums, cherries, grapes, etc., with lots of horse-mint, which is said to be a great honey-producing plant, besides large varieties of wild flowers. I have kept bees for the greater part of 50 years, and I have tried to winter them in almost all kinds of places and ways with good success one time, and bad success at another time with apparently the same conditions. Three years ago I had a hole dug in the side of a sand bank about 4 feet square, 5 feet deep, and roofed over. It was covered 2 feet deep with sand, with a 3-inch ventilator. A medium colony was in the same, and it remained there from November until April 1, and to my surprise it came out in good condition with but very few dead bees on the bottom-board, and only slightly moldy. The best place that I have ever found to winter bees was in a dry, dark cellar, with frequent ventilation by opening doors or windows. A continuous ventilation would be still better if it could be controlled at any time. Bee-diarrhea will never be wholly prevented, as the causes are as varied as the changes of weather, conditions of stores, etc., etc.

Bees never exist in an abnormal condition, or in a dormant state. I have seen bees after having swarmed and clustered for 10 or 12 hours, so close together that they would appear about as they do in cold weather; especially do they appear so early in the morning after clustering over night. Frequent changes in weather without flight, as well as frequent disturbance, tends to bring on bee-diarrhea. I have always noticed when our winters were severe, with but few changes, bees invariably come out nicely with but little if any diarrhea; but with frequent changes there is great loss by dwindling and diarrhea. I have kept only the black and Italian bees, and I had an idea that the Italians were the best workers, but I notice that opinions on this conflict.

Denison City, ~o Tex.

For the American Bee Journal.

Nemaha County, Nebr., Convention.

The bee-keepers in this part of Nemaha county met at 10 a. m. on Feb. 24, 1885, at Johnson, and completed the organization of the "Nemaha County, Nebraska, Bee-Keepers' Association," by the election of the officers as follows: President, W. F. Wright, Johnson, Nebr.; Vice-Presidents, J. P. Miller, of Johnson, Mrs. B. Aldrich, of Brock, and H. M. Stover, of Elk Station; Secretary, R. Corgell, of Brock; and Treasurer, Wm. Steward, of Brock. The President, 1st Vice-President and Secretary constitute an executive committee.

There are at least 25 bee-keepers within a radius of 5 miles of Johnson, having from 1 to 50 colonies each. No one in this locality has taken any special interest in bee-keeping beyond the box-hive and a few pounds for home use, until within the past year. Nearly all are now wide awake to the interests of bee-keeping. It seems strange that one of the best counties of the State for fruits of all kinds, should be the smallest in the production of honey. However, Nemaha county will very soon go to the front as a honey-producing county, as it has, without any doubt, the best and greatest amount of bee-pasturage of any county of the State. About one-half of the colonies left on the summer stands have either frozen or starved; those which were protected have come through the winter in pretty good condition.

The next meeting will be held at Johnson, Nebr., on Saturday, March 14, 1885, at 10 a. m., for discussion of topics of interest.

W. F. WRIGHT, *Pres.*

☞ The Northern Ind. and Southern Mich. Bee-Keepers' Association. will meet at the Court House in Goshen, Ind., on April 3, 1885. All interested in bee-keeping are invited to attend. F. L. PITT, *Sec.*

Local Convention Directory.

Time and place of Meeting.

1885.
Mar. 26.—Tuscarawas Co., at New Philadelphia, O.
Geo. F. Williams, Sec., New Philadelphia, O.

Apr. 3.—N. Ind. and S. Mich., at Goshen, Ind.
F. L. Putt, Sec., Goshen, Ind.

Apr. 3.—N. E. Kansas, at Hiawatha, Kans.
L. C. Clark, Sec., Granada, Kans.

Apr. 1.—N. E. Kentucky, at Walton, Ky.
G. W. Cree, Sec., Covington, Ky.

Apr. 9, 10.—Western, at St. Joseph, Mo.
C. M. Crandall, Sec., Independence, Mo.

Apr. 11.—Wabash County, at Wabash, Ind.
Henry Cripe, Sec., N. Manchester, Ind.

Apr. 25.—Union, at Earlham, Iowa.
M. E. Darby, Sec., Dexter, Iowa.

Apr. 28.—DesMoines County, at Burlington, Iowa.
Jno. Nau, Sec., Middleton, Iowa.

May 4.—Linwood, Wis., at Rock Elm Centre, Wis.
B. Thomson, Sec., Waverly, Wis.

May 7.—Progressive, at Bushnell, Ills.
J. G. Norton, Sec., Macomb, Ills.

May 19.—N. W. Ills., and S. W. Wis., at Davis, Ills.
Jonathan Stewart, Sec., Rock City, Ill.

May 28.—N. Mich. Picnic, near McBride, Mich.
F. A. Palmer, Sec., McBride, Mich.

June 19.—Willamette Valley, at La Fayette, Oreg.
E. J. Hadley, Sec.

Dec. 8—10.—Michigan State, at Detroit, Mich.
H. D. Cutting, Sec., Clinton, Mich.

☞ In order to have this table complete, Secretaries are requested to forward full particulars of time and place of future meetings.—Ed.

SELECTIONS FROM OUR LETTER BOX

Bees Having Good Flights.—5—G. A. Beech, Quitman,~o Mo., on March 6, 1885, says:

It has been very muddy for the last week, and the bees have had good flights during that time. Last fall I packed 35 colonies in chaff on the summer stands, and now I find 32 of them in good condition, and 3 dead.

Not Discouraged.—Henry Langkamp, (38—12), Beach City,♂ O., on March 7, 1885, writes:

This has been a hard winter on bees. I lost 26 colonies out of 30 which were packed in Simplicity hives on the summer stands. I have 8 colonies in chaff hives, which are all alive. All of the colonies have the diarrhea, the cause being the severe winter and the existence of a cider mill within a half mile of here, last fall. I am not discouraged.

Italians vs. Brown and Black Bees.—Geo. Poindexter, Kenney,⊙ Ills., March 5, 1885, writes as follows:

Having kept the black or German bees until the last 3 years, I am now prepared to take my stand in favor of the Italians, as I have found them superior in almost every respect to the black or brown Germans, according to the color of the combs in which they are hatched. This makes the difference between the brown bees and the blacks, but no difference in the quantity of honey produced by either, as they are both the same race of bees, for by in-and-in breeding so long going on in the forests of America, they could not possibly have kept separate. My experience with the blacks has been that if 2 frames of brood be taken from a colony, it never rallies from the loss; if a colony loses its queen, the bees superseded her with the moth-miller. The blacks are too charitable. They will give the bee-keeper all the honey they store in the supers, and leave themselves to starve in the brood-nest. They fill the sections with pollen and drones, and in a poor honey season they call on the Italians for a few frames of honey with which to carry them through the winter. Italians bred from colonies that produce the most honey, is my motto.

Great Mortality of Bees.—5—R. P. Williams, (15—15), Goldsmith,⊙ Ind., on March 7, 1885, says:

There has been a great mortality amongst the bees in this part of the county this winter. More than half of the bees have starved to death, as the last season was a very poor one for honey, and the winter being so very cold that most of the bees were dead before the bee-keeper had a chance to examine them.

Starvation and Diarrhea.—E. B. Southwick, Sherman,~o Mich., on March 6, 1885, says:

I was not a little surprised to see the answers given to query No. 28 in the query department. The querist says, without any qualifications, that his bees "died from starvation," and then by describing the appearance of the inside of the hive, shows that they had the diarrhea. This is one of many hundred cases that occur every winter, which bear the unimpeachable evidence that starvation sometimes produces diarrhea. That it always does, or that diarrhea is always the consequent of starvation, I do not pretend to say, but in the majority of the instances, that is the case. The experiments of M. Chossat, in Paris, in 1843, to establish the symptoms of starvation, proves that diarrhea is the actual consequent, and comes on just before convulsions and death. It looks to me that the querist was perfectly satisfied that the cause of the diarrhea was starvation, and the query is put just to see how it could be evaded.

Bees in Good Condition.—Wickliffe Fisher, Hamler,~o O., on March 10, 1885, writes thus:

Bees have not wintered well in this section of the country, but by proper mangement my bees are in good condition, considering the extreme cold winter. As I look back over the past 11 years of my experience with bees, I can say that they have paid me a good profit, but it took me several years to learn by experience things which I could have learned by reading a single copy of the Bee Journal. Although I do not wish to be classed as such, nevertheless the saying is true that "Experience is a dear school, but fools will learn in no other."

First Flight in 16 Weeks.—C. W. Dayton, (50—112), Bradford,♂ Iowa, on March 9, 1885, writes:

To-day the colony and the two-frame nucleus which I have packed in leaves on the summer stands are enjoying their first flight for just 16 weeks, their last flight having been on Nov. 17, 1884. Both are in good condition, and the full colony has consumed about 7½ pounds of honey during the time. The mercury varied from 43° below to 44° above zero during the winter.

Feeding Sour Honey.—O. J. Post, Chagrin Falls,♂ O., on March 2, 1885, writes:

In the spring of 1884 I had 7 colonies of bees, and increased them to 13, which I packed on the summer stands last fall. There is but little signs of diarrhea. For the past 2 or 3 days it has been warm enough for them to fly, but I kept them in by packing snow around the hives, as I was afraid that they would fall into the snow, and then I would lose the most of them. They had splendid flights on Dec. 29 and 30, 1884. In the spring of 1884 I fed about 5 gallons of old sour honey, and the results were as follows:

Colony No.	1—cast a swarm on	May 21
" "	2— " " "	" 21
" "	3— " " "	" 18
" "	4— " " "	" 18
" "	4— " a second swarm on	June 2
" "	5—put on 28 one-lb. sections	May 22
" "	6— " " " " "	" 22
" "	7—cast a swarm on	" 18
" "	7— " a second swarm on	June 12

One swarm absconded. Nos. 5 and 6 filled the sections in apple bloom, and the honey was red and does not candy much. They have some of it for winter stores. They also gathered some honey in the fall that looks like water in a swamp—black and dirty—and is thiner than clover honey and of a different color.

Bees in Excellent Condition.—Dr. G. L. Tinker, New Philadelphia,o+O., on March 6, 1885, says:

My 40 colonies of Syrio-Albinos had a good flight on Feb. 28, and are all in excellent condition. Almost as many colonies have been lost in this section this winter as in the winter of 1880-81.

Wintering Bees.—J. H. Andre, Lockwood,♀ N. Y., writes as follows:

Although I have seen so much in the Bee Journal about wintering bees, yet I would like to add a few words on the subject. I think that a great many failures in wintering bees is the result of their being moved into winter quarters too early in the season, instead of leaving them on the summer stands until there has been one good, sharp, stinging freeze to put the finishing touches to ripening and purifying the honey. I do not care if the mercury goes down to 20° below zero, for one such freeze does no harm to the bees. Last season I put 25 colonies into a cellar, after the winter had gotten well started, the drain became stopped up, and water stood in the cellar under the bees all winter. They were taken out on

April 1, and the combs were so moldy that they looked like old soap-grease. All but two had increased their numbers some 50 per cent., many commenced to rear brood in February, and there was not an apiary for miles around that produced either as much comb honey or as many swarms during the past season.

Delighted Bees.—7—Z. A. Clark. (41—85), Arkadelphia, ♀ Ark., on Feb. 28, 1885, says:

We have had all kinds of weather during this month; on Monday (Feb. 23) we had a sleet that froze on the trees, thus causing great destruction of timber. But Thursday (Feb. 26) opened up warm, and my bees began to bring in pollen from maple and elm, and they seemed to be almost wild. I have one colony of Syrio-Italians that are very amiable, and fine honey gatherers. They can be handled without smoke, and appear as quiet as if the hive had not been opened. I am feeding a little now to stimulate my bees. I will soon start queen-rearing.

Losing all their Bees.—Mrs. S. C. Tyler, Utica, ♂ Mo., on March 7, 1885, writes thus:

Bees have wintered poorly in this section, some bee-keepers losing all. I lost 1 colony out of 4, and another has dwindled badly. They were all left on the summer stands protected with chaff; 2 seem to be very strong, and have had several flights, but they had the diarrhea badly, I think, for the alighting-boards, snow, etc., were badly spotted.

Shipping-Cases for Honey.—F. Wilcox, (115—165), Mauston, ⊙ Wis., says:

That combined section-rack and shipping-case spoken of by Dr. W. G. Phelps, on page 120, has all the advantages which its enthusiastic friends claim, but there are also no less than 3 valid objections to it, viz: 1. The honey cannot be graded. 2. The sections cannot be scraped clean. 3. One cannot know just what kind of honey he is selling. Imagine yourself sending a sample case to some groceryman whose trade you desire to supply. You select a good looking combined rack and shipping-crate, the groceryman opens it and finds in the middle a section in which brood has been hatched, and some sections containing bee-bread, which you did not even suspect. He will think that "this is a sample crate;" and probably he will not want much more. I have used these racks for 6 years on from 15 to 40 hives, and I know something about them. I wish to suggest a slight modification of the Heddon case which makes it better for me, and I think that it will improve it for others. Put a strip of glass 2½ inches wide in one side, and cover the glass with a thin sliding board lying close against the glass. The edges of the strips which hold the glass, and the slide, being slightly beveled to hold the slide in place. This slide darkens the glass, and a cap may be dispensed with during the honey harvest.

Bees Wintering Poorly.—A subscriber from Bowerston, ⊶ Ohio, on March 9, 1885, writes thus:

Bees in this section are wintering poorly, especially the blacks; the Italians faring far the best, noticeably those in chaff hives or otherwise well protected. The causes seem to be the lack of stores and the poor quality of the same, coupled with long confinement and insufficient protection.

Diarrhea with no Pollen or Brood.—Mrs. W. H. Smith, Mount Salem, Ont., on March 9, 1885, writes as follows:

On Nov. 1, 1884, I obtained 2 colonies of bees from a neighbor who intended killing them for their honey. I placed them in hives with frames already filled with comb, and fed them with syrup made of granulated sugar. In a short time they had the combs filled, and the greater portion capped, and in the last week of the same month I placed them in the bee-house whose walls are made of concrete from the bottom (which is underground about 3 feet) to the height of 4 feet, and from this upward is a frame boarded inside and out, the hollow space being filled with concrete. This morning I examined them and found that they had all died from diarrhea with neither pollen nor brood. The balance of my bees appear to be all right.

Bees Appear All Right.—W. B. Stephens, Stephens' Mills, ♀ N. Y., on Feb. 21, 1885, writes:

I have 126 colonies of bees in the cellar which appear to be all right at present. I shall try reversible frames, next season, and see whether it pays to use them.

Feeding Bees in Winter, etc.—J. C. Bale, Hamilton, Ont., on March 9, 1885, writes:

My plan of feeding hungry bees in midwinter is as follows: Make a candy on A. I. Root's plan, viz: Melt sugar in sufficient water, boil till clear, remove from the stove and stir till it becomes cloudy and begins to stiffen. Then pour this into a shallow tray made of a common frame boarded up tight on one side. When the candy is hard enough, turn the frame upside down over the cluster (first warming the candy a little, if cold), tuck the blanket snugly over all, and they will need nothing more for some time. This economizes space, causes little disturbance, and could not be handier for the bees. In 1883-84 I made my candy of very light brown sugar, and no harm resulted. If I knew how to make the "Good candy," I might prefer that. As to fastening foundation in brood-frames: I find that a rapid, clean, and neat method is to take a smooth-faced, iron tool, like a shoemaker's heel-polisher—without a flange—dip it into tepid water and press the foundation tightly to the frame in half a dozen places, and it will stick well. The top-bars or comb-guides should rest solidly on a proper sized board, the edge of a hive cover being very good for this purpose.

☞ Dr. C. C. Miller, president of the Northwestern Bee-Keepers' Society, writes as follows:

The question has been asked whether it will be legal for the Northwestern Bee-Keepers' Society to omit its next meeting, or to meet with the National at Detroit next fall? If, at the meeting last fall, a sufficient number had voted in favor of such change, I think that it would have been right to have made the change, and it seems to me that if the same number should now vote in that direction the effect should be the same. If I am wrong in the matter, I shall be glad to be set right. For myself I only wish to know what is the mind of the members. If such motion had been made at the last meeting, there would probably have been reasons given *pro* or *con*, and it would be entirely proper for any one to give his reasons for his preference, in print, now.

Convention Notices.

☞ The next meeting of the Union Bee-Keepers' Association of Western Iowa, will be held on April 25, 1885, at Earlham, Iowa.

M. E. Darby, *Sec.*

☞ The semi-annual meeting of the Northeastern Kentucky Bee-Keepers' Association will meet at Odd Fellows' Hall in Walton, Ky., on April 1, 1885, at 10 a. m. A free dinner will be given by the bee-keepers of the neighborhood. G. W. Cree, *Sec.*

☞ The Progressive Bee-Keepers' Association of Western Illinois will meet in Bushnell, Ills., on Thursday, May 7, 1885. Let every bee-keeper who can, be present and enjoy the meeting. J. G. Norton, *Sec.*

☞ The Tuscarawas County Bee-Keepers' Association will meet at New Philadelphia, O., on Thursday, March 26, 1885. A cordial invitation is extended to all.

Geo. F. Williams, *Sec.*

☞ The Willamette Valley Bee-Keepers' Association will hold its second meeting at La Fayette, Oregon, on the third Tuesday in June, 1885. All who are interested are invited to attend.

E. J. Hadley, *Sec.*

☞ The Sixth semi-annual meeting of the Western Bee-keepers' Association will be held in Unity Chapel, at St. Joseph, Mo., on Felix St., between 7th and 8th streets, on Thursday and Friday, April 9 and 10, 1885, commencing at 10 a. m. on April 9. All interested in bee-culture are invited to attend and make the meeting as interesting as possible. A full programme will be prepared and a general good time may be expected.

C. M. Crandall, *Sec.*

Special Notices.

☞ Our rates for two or more copies of the book, " Bees and Honey," may be found on the Book List on the second page of this paper. Also wholesale rates on all books where they are purchased " to sell again."

◆

☞ For two subscribers for the Weekly BEE JOURNAL (or 8 for the Monthly) for one year, we will present a Pocket Dictionary, and send it by mail postpaid.

◆

☞ Do not forget to send for a Binder in which to file your JOURNAL and thus have the full benefit of it during the whole year.

◆

☞ We want one number each of the JOURNAL of Aug. 1866, Feb. 1867. Any one having them to spare will please send us a Postal card. We will take the first that offer them, and pay 25 cents each for the 2 numbers.

◆

☞ Those who have the Monthly for 1883 or 1884 will be pleased to learn that we have a few Binders still left for those years—Price 50 cents each. Send for them before all are gone, for we do not intend to get any more made.

◆

FRUIT GROWING.—We have received a copy of an illustrated pamphlet of 64 pages, entitled " How to Propagate and Grow Fruit," by Chas. A. Green, editor of the *Fruit Grower*, Rochester, N. Y. Price 50 cents. To any one sending us a new subscriber for the Weekly or 4 for the Monthly, besides his renewal for either edition, we will present a copy of this book.

◆

Farmer's Account Book.

This valuable book contains 166 pages, is nicely printed on writing paper, ruled and bound, and the price is $3.00. We will club it and the Weekly BEE JOURNAL for a year for $4.00. If you have already sent us $2.00 for the Weekly BEE JOURNAL for a year, we will send the Book for another $2,00, making $4,00 in all. If you want it sent by mail, add 20 cents for postage.

We can supply these books at the publisher's price, or will make a **present** of one copy for every club of TEN subscribers to the Weekly BEE JOURNAL for one year, with $20. Four subscribers to the Monthly will count the same as one for the Weekly.

Now is the time to get up Clubs. Who will work for a copy of this valuable book.

CLUBBING LIST.

We will supply the **American Bee Journal** one year, and any of the following Books, at the prices quoted in the last column of figures. The first column gives the regular price of both. All postage prepaid.

	Price of both.	*Club*
The Weekly Bee Journal	$2 00..	
and Cook's Manual, latest edition	3 25..	3 00
Bees and Honey (T.G.Newman) cloth	3 00..	2 75
Bees and Honey (paper covers)	2 75..	2 50
Binder for Weekly Bee Journal	2 75..	2 50
Apiary Register for 100 colonies	3 25..	3 00
Dzierzon's New Bee Book (cloth)	4 00..	3 00
Dzierzon's New Book (paper covers)	3 50..	2 75
Quinby's New Bee-Keeping	3 50..	3 25
Langstroth's Standard Work	4 00..	3 75
Root's A B C of Bee Culture (cloth)	3 25..	3 10
Alley's Queen Rearing	3 00..	2 75
The Weekly Bee Journal one year		
and Gleanings in Bee-Culture (A.I.Root)	3 00..	2 75
Bee-Keepers' Magazine (A.J.King)	3 00..	2 75
Bee-Keepers' Guide (A.G.Hill)	2 50..	2 35
Kansas Bee-Keeper	3 00..	2 75
The Apiculturist, (Silas M. Locke)	3 00..	2 90
The 6 above-named papers	6 50..	6 00

THOMAS G. NEWMAN,
925 West Madison Street., **Chicago, Ill.**

◆

Create a Local Honey Market.

Now is the time to create Honey Markets in every village, town and city. Wide-awake honey producers should get the Leaflets " Why eat Honey" (only 50 cents per 100), or else the pamphlets on " Honey as Food and Medicine," and scatter them plentifully all over the territory they can supply with honey, and the result will be a *demand* that will readily take all of their crops at remunerative prices. The prices for "Honey as Food and Medicine" are as follows:

Single copy 5 cts.; per doz., 40 cts.; per hundred, $2.50. 500 will be sent postpaid for $10.00; or 1000 for $15.00. On orders of 100 or more, we will print, if desired, on the cover-page, " Presented by," etc., (giving the name and address of the bee-keeper who scatters them). This alone will pay him for all his trouble and expense—enabling him to dispose of his honey at home, at a good profit.

◆

Apiary Register—New Edition.

All who intend to be systematic in their work in the apiary, should get a copy and commence to use it. The prices will hereafter be as follows:

For 50 colonies (120 pages)	$1 00
" 100 colonies (220 pages)	1 25
" 200 colonies (420 pages)	1 50

The larger ones can be used for a few colonies, give room for an increase of numbers, and still keep the record all together in one book, and are therefore the most desirable ones.

Advertisements.

GEO. GRIMM, of Jefferson, Wis.,
Will sell 300 to 400
COLONIES OF BEES
In the **8-Frame Langstroth Hive**
at the following prices:

Pure Italians,	1 to 5	$6 50
" "	5 to 20	6 00
" "	20 or more	5 75
Hybrid Italians,	1 to 5	5 75
" "	5 to 20	5 25
" "	20 or more	5 00

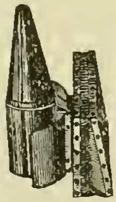
TERMS and Conditions as follows: Orders will be booked only when accompanied by the **Cash,** and will be filled in their proper turn. I will ship some time in the month of May, and the exact date must be left in my discretion to be governed by the circumstances and the weather. Will notify before shipment. Will **Guarantee Safe Arrival** at last Express Station, and will guarantee satisfaction. 9D4t

LOOK AT **DOOLITTLE'S** "Old Man with a Tear in his Eye" in last week's BEE JOURNAL.
11E15t

TO BEE-KEEPERS.--WANTED
An apointment for remuneration, in an apiary, by a young man practically acquainted with Bees. References exchanged. Address,
11A1t **WM. HISLOP,** STRASBURG, ONT.

Hives! Sections! | 1885 | Hives! Sections!
CHEAP!
Simplicity Hives in the Flat complete, $1. **Basswood Sections,** kiln dried, nice and white. Special inducements on large orders. Send for Price-List and sample of Sections.
A. D. BENHAM, OLIVET, EATON CO., MICH.
11Dtf

QUEENS **Send for Price-List of** Italian & Holy-Land Queens for **1885.** BEES by the pound, nuclei and full colonies. **J. C. MISHLER.**
11D6t **Ligonier, Noble County, Ind.**



BINGHAM SMOKERS.
I can sell the above Smokers at MANUFACTURERS' PRICES, by mail or express, at wholesale or retail. All the latest improvements, including THE CONQUEROR, and THE DOCTOR.
Send for my 32-page Illustrated Catalogue of Bee-Keepers' Supplies of every description.
ALFRED H. NEWMAN,
923 W. Madison, CHICAGO ILL.

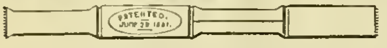
FOR BEE-HIVES
And a general assortment of **Bee-Keepers' Supplies** send for circular to
51Dtf J. E. PRYOR, Dexter, Iowa.

THE BRITISH BEE JOURNAL
AND BEE-KEEPER'S ADVISER.
The BRITISH BEE JOURNAL is published SEMI-MONTHLY, at Seven Shillings per annum, and contains the best practical information for the time being, showing what to do, and when and how to do it. **Rev. H. R. PEEL, Editor.**
LONDON, ENGLAND.

The British Bee Journal and our Weekly for $3.50; with our Monthly, $2.00 a year.

Vandervort Foundation Mill.
6 Inch, Price, $25.00.
It makes the finest extra thin Foundation for comb honey. For Sale by
ALFRED H. NEWMAN.
923 West Madison Street, CHICAGO, ILL.

"BOSS" ONE-PIECE
SECTIONS.


PATENTED JUNE 28 1881.

One-lb. ($4\frac{1}{4}$x$4\frac{1}{4}$)	in lots of	500 to 4,000	$5.00
Ditto	Ditto	5,000 to 10,000	4.50
Ditto	Ditto	10,000 to 25,000	4.00

The one-lb. Section is 17 inches long. For any sizes between 17 and 20 inches in length, add 5 per cent. For any sizes between 20 and 24 inches, add 10 per cent. Add the above per centage to the price of one-lb. Sections in the same quantities.

We make any size or width desired.

J. FORNCROOK & CO.,
10A4t Watertown, Wis., Mar. 1, 1885.

☞ Alfred H. Newman, of Chicago, sells the one-piece Sections manufactured by us.

---

500 Names wanted for my 18-page Illustrated Catalogue of **Bee-Keepers' Supplies** for 1885. Send for it! I can SAVE you money. HENRY CRIPE, N. Manchester, Ind.
9A4t 4B1t

---

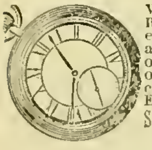
80 COLONIES of Ital. Bees for sale by lb. or colony. Simp. hives, L. frames, 9⅛x17⅝. Wired Combs built from foundation combs straight as boards. Queens and Given Foundation for sale. Send for Circular. T. H. KLOER, Terre Haute, Vigo County, Ind. 10A3t

---

JOHN HERB & CO., Beaver Dam, Dodge Co., Wis., Manufacturers of

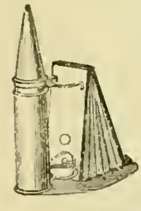
HIVES AND SECTIONS.

11A4t 3B2t ☞ **Price List Free.**



We will send you a watch or a chain BY MAIL OR EXPRESS, C. O. D., to be examined before paying any money and if not satisfactory, returned at our expense. We manufacture all our watches and save you 30 per cent. Catalogue of 250 styles free. Every Watch Warranted. Address

STANDARD AMERICAN WATCH CO.,
PITTSBURGH, PA.
46A26t



Bee-keepers' Supplies,

Standard Langstroth,

Quinby Standing-Frame,

And all other kinds of **Hives,**

MADE TO ORDER,

Quinby Smoker a specialty.

I shall supply anything you need in the Apiary. Send for Illustrated Price List.

W. E. CLARK, successor to L. C. Root,
7A13t ORISKANY, Oneida County, N. Y.

Muth's Honey Extractor,

Square Glass Honey Jars, Tin Buckets,
Langstroth Bee-Hives, Honey-Sections, etc.
Apply to **C. F. MUTH,**
976 and 978 Central Ave., **CINCINNATI, O.**
☞ Send 10c. for Practical Hints to Bee-Keepers.

---

6 SYRIAN QUEENS, $6

WARRANTED
PURELY MATED for

Single Queen, $1.25. **Tested Queens,** $3.00 each. Italian Queens at the same prices.
10Ctf **I. R. GOOD, Sparta, Tenn.**

J. W. ECKMAN,

DEALER IN

Pure Italian Bees and Queens

For further information, send for Circular.
11A13t **Richmond, Ft. Bend Co. Texas.**

SUMNER & PRIME,

Bristol, Vt.,

BEE-KEEPERS' SUPPLIES.

WE HAVE just completed our Factory, furnished it with the most improved Machinery, and are now prepared to fill all orders for **BEE-FIXTURES** of every description. **WHITE POPLAR SECTIONS** of all sizes a specialty. All orders will receive prompt attention. Send for Catalogue Price-List and samples. 10A12t

---

DUNHAM AND VANDERVORT
FOUNDATION.

WE have bought a large stock of **Choice Yellow Beeswax,** and can furnish Dunham Comb Foundation for brood comb for **50c.** per lb. Thin Dunham for Sections, **55c.** per lb. Extra thin Vandervort, 10 to 12 square feet to the lb., **60c** per lb. Will work up wax into Foundation for **10, 15 and 20c.** per lb. To induce our customers to order Foundation **early** in the season, we will allow **10** per cent. discount on all orders received before the 1st of May.

F. W. HOLMES,
9D9t COOPERSVILLE, Ottawa Co., MICH.

THE INVERTIBLE HIVE!

INVERTIBLE FRAMES,
Invertible Surplus Honey Cases,
Entrance Feeders, Top and Bottom Feeders,
Hive-Lifting Device, Honey Extractors,
Wax Extractors, Comb Foundation, etc.

☞ My new Illustrated Catalogue is now ready, and will be mailed to all who may apply for it. Address,

J. M. SHUCK,
DES MOINES, IOWA.
10A1y

Bee-Keepers' Supplies.

We have added to our LARGE FACTORY a SPECIAL DEPARTMENT for the

Manufacturing of Bee-Hives,

AND

White Poplar Dovetailed
Also, One and Two-piece SECTIONS.

☞ All Orders will be filled promptly at the **LOWEST FIGURES,**
Send Stamp for Catalogue and Samples.

The H. F. MOELLER M'f'g Co.
1A26t DAVENPORT, IOWA.

W. Z. HUTCHINSON,

Rogersville, Genesee Co., Mich.,

can furnish just as neat, white, smooth and perfect, dovetailed, white poplar sections as there are made. Send for sample and prices.
4Dtf

SOMETHING NEW!

THE **Best-Made,** handiest and cheapest combination,

Summer and Winter Hive

in the market. Send for Catalogue of general **APIARIAN SUPPLIES.** The best white poplar **SECTIONS** and pure yellow beeswax. **COMB FOUNDATION** a specialty.

Full Colonies, Nuclei Colonies and

QUEENS for SALE.

Be sure to send for 25th Annual Price List, before making your purchases for 1885.
Address **WM. W. CARY, Jr.**
COLERAINE, MASS.
3Dtf Successor to Wm. W. Cary & Son.

FREE **A set of Toy Parlor Furniture** containing Chairs, Sofa, Piano & Stool, Clock, Easy Chairs, Screens, Rugs, Vases, &c, made in imitation of the most fashionable Plush and Ebony Parlor Suits, and "Happy Days," the popular 16p. illustrated Magazine for Boys and Girls, 3 months for **18c.** to pay cost of this advertisement. Address Publishers of HAPPY DAYS, HARTFORD, CONN.

---

40 Embossed and Hidden Name Cards, Hand holding Flowers, &c., Game of Fortune and Present, 10c., 11 packs, Pearl Ring and Handkerchief, **A.** BLAKESLEE & CO., North Haven, Ct.
8D6t

---

40 **Hidden Name, Embossed** and **New Chromo Cards,** name in new type, **an Elegant 48 page Gilt bound Floral Autograph Album** with quotations, 12 page Illustrated Premium and Price List and Agent's Canvassing Outfit, all for 15 cts. SNOW & CO., Meriden, Conn.
7D6t

CARDS & KNIFE FREE!

50 different designs **Birds, Swiss Floral, Ivy Wreath, Gold Panel, Sentiment, Oval Embossed, Summer, Winter, Moonlight & Marine scenes,** all in beautiful colors on superfine enameled board

with your name in fancy type 10c. 11 pks and this beautiful Pearl Handle 4-bladed Knife **(for lady or gent)** $1.00 By getting 10 of your friends to send with you, you obtain an elegant knife and a lovely pack of cards FREE. **CAXTON PRINTING CO.,** Wallingford, Conn.
7D6t

FREE! FREE! **Solid Gold and Silver Watches, Chains, Rings, and 100** other useful articles **absolutely Free! 50 Elegant Gold Leaf Embossed and Souvenir Cards** with your **name** in New **script Type, 10c., 2 packs** and **8 Elegant French Dolls** with **wardrobe** of **32** pieces, **20c 3 packs** and this beautiful **Rolled Gold Ring, 30c.** Our styles of **Imported, Satin Fringe** and **Real Silk Florals are unequaled. Full instructions** how to **obtain** all the above **articles free,** also a **full line of samples free with every order. We want Agents,** and offer **Gold to those who seek it, Agents make $5.00** per day handling **our goods.** Send **at once;** don't **miss** this opportunity as this **offer may not be repeated.** Address **WEST HAVEN MANUFACTURING WORKS, West Haven, Conn.**
7D6t

PERFUME **40 Hidden Name** and Embossed **CARDS** and this Perfumed Satchet for 12c. Samples, 4c. CLINTON & CO., North Haven, Conn.
☞ *We have seen cards from many firms, but none as pretty as those from Clinton & Co.*

---

50 **LATEST STYLE FLORAL BEAUTIES,** Motto, Landscape and Satin Cards with your name on, also 1 Perfume Sachet, 1 sheeet of Embossed Pictures, 1 set of Agent's Samples, Premium List, &c., all for **10c.;** 5 packs, 5 Perfume Sachets, 5 sheets of Embossed Pictures, Agent's Outfit and a **Lovely Rolled Gold Finger Ring for only 50 cents. FRANKLIN PRINTING CO., New Haven, Conn.**

---

60 New Style, Embossed Hidden Name and Chromo Visiting Cards no 2 alike, name on, 10c., 13 packs $1. Warranted best sold. Sample Book, 4c. L. JONES & CO., Nassau, N. Y.

BE SURE

To send a Postal Card for our Illustrated Catalogue of APIARIAN SUPPLIES before purchasing elsewhere. It contains Illustrations and descriptions of everything new and valuable needed in an apiary, at the lowest prices. Italian Queens and Bees. Parties intending to purchase Bees in lots of 10 colonies or more, are invited to correspond.

J. C. SAYLES,
1D15t 2B5t HARTFORD, WIS.

Dadant's Foundation Factory, wholesale and retail. See Advertisement in another column.

WEEKLY EDITION
OF THE
AMERICAN
ESTABLISHED IN 1861
OLDEST BEE PAPER IN AMERICA
BEE JOURNAL
PUBLISHED BY
THOMAS G. NEWMAN,
EDITOR AND PROPRIETOR,
925 WEST MADISON-STREET, CHICAGO, ILL.
Weekly, $2 a year; Monthly, 50 cents.

Vol. XXI. March 25, 1885. No. 12.

☞ In answer to several correspondents we will say that Alsike clover blossoms just after the white clover begins to bloom, and lasts till basswood yields nectar. It would be better to pasture the Alsike until about June 20, and then it would bloom about the time when basswood ceases, and thus prolong the honey season some, when something is most needed for the bees to work upon.

☞ From the *Bienen Zeitung* we learn that Herr Dathe, a bee-master of Hanover, has been to Ceylon, and describes the bees there found. He says that "the sting of *Apis dorsata* is sharp and severe, but the action is clumsy, so that this large bee can be removed before it is inflicted." Of *Apis Indica* he says: "They closely resemble Italian bees; they live in the cavities of trees, in the gardens of the natives, as well as in the forests." Of *Apis florea* he states that "they are of little value, only producing a small quantity of honey."

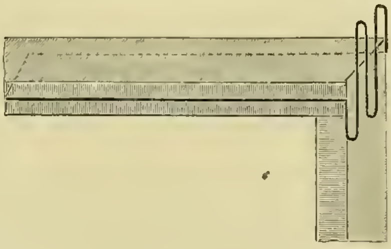
☞ Frank Benton has issued a Leaflet in which he tries to *sting* Prof. Cook, Mr. T. W. Cowan, Mr. H. Alley, and the editor of the BEE JOURNAL. He puts us all down as "know-nothings." Such *egotism* is truly refreshing!

☞ From Jacob Ruch, Mt. Eaton, O., comes a reversible-frame device. It consists of a wire projecting-end for the top-bar, which turns down on the side-bar when not needed. It can be up or down in an instant, and is one of the best devices out of the multitude which has been sent to this office.

☞ Our readers will regret to learn that our friend, the Rev. L. L. Langstroth, has had an attack of paralysis, as will be seen by the following letter, dated Oxford, O., March 13, 1885:

> For the information of inquiring friends, I wish you to state that three weeks ago I had an attack of paralysis, affecting my left arm and leg. I have recovered a comfortable use of my limbs, but my general health continues, as it has been for the last 15 months, to be very feeble.
>
> Your friend,
> L. L. LANGSTROTH, *per A. L. C.*

☞ Miss Emily C. West, of Flint, Mich., has sent a device for a reversible frame, as shown by the illustration. It is made of wire and slips into the top-bar of the frame. She says:



"I think that the illustration will show the simplicity of the arrangement. It can be put upon any frame just by making two brad-awl holes in the center of the end-bars. The wires at the side keep the frame upright, and the projections cause it to rest firmly upon the edge of the hive. The frame can be reversed in an instant, and there is no chance for sticking it fast to the frame. It can be made from a single piece of wire, which makes it quite inexpensive."

☞ In the report of the International Congress, pages 154 and 155, there are two essays, one by Mr. Viallon, the other by Mr. Dadant, which seem to contradict one another in regard to the cost of beeswax. The contradiction is only apparent, and not real; as in Mr. Viallon's tests, no account was taken of the large quantity of honey consumed by the brood reared in the hives containing empty combs, and it is evident that the colonies in these hives reared a great deal more brood during those 28 days than the colonies that were given empty frames. The quantity thus consumed, and the greater strength of those colonies for a future harvest, would probably make up the difference between those reports, on the cost of wax. We cannot, however, refrain from thanking Mr. Viallon for his experiments, so carefully reported, as they are very useful to throw light on the subject.

☞ The losses of bees have been quite large all over the North, where they were wintered on the summer stands. Those wintered in cellars are generally reported to be in good condition. Those who have bees to sell will find plenty of buyers, if they are wise enough to let it be known. We have had many inquiries already for information as to where to buy bees. Those having bees to sell should advertise them *at once*.

☞ According to *L'Apiculteur*, the sale of honey in France was not satisfactory last season. Much of it yet remains unsold. Marseilles reports 50,000 kilograms of beeswax on hand, and the receipts exceed the sales. A kilogram is about two pounds.

☞ Mr. Elijah A. Daggitt, White House, N. J., has sent us another device for reversing frames. It consists of a tin arm to reverse a double "tin corner" made similar to the novice tin corner. It would hardly be substantial enough to suit the generality of bee-keepers, we think.

☞ From Mr. W. H. Smith, Mt. Salem, Ont., comes another device for reversing frames. It consists of a piece of hoop-iron with the top turned over to make a rest for the frame. This has two holes, and a slot slips over 2 screws; a third screw below allows the reversing.

☞ By the courtesy of Secretary S. M. Locke, we give a condensed report of 3 sessions of the New York State Bee-Keepers' Convention. The rest will appear as soon as we receive it.

☞ By the *British Bee Journal* we see that the Reversible-Frame Craze has now reached that country. There is no end to the number of devices.

☞ The exports of honey from Chili in 1883 were 1,310,256 kilos, valued at $201,392. Of wax, 99,624 kilos; value, $85,617.

☞ The Missouri Convention has been changed. See page 189.

Catalogues for 1885.—We have received the following:

Williamson & Bro., Lexington, Ky.
G. M. Doolittle, Borodino, N. Y.
J. W. Clark, Clarksburg, Mo.
Flanagan & Illinski, Belleville, Ill.
W. S. Cauthen, Pleasant Hill, S. C.
Jas. O. Tacey, Tavistock, Ont.
Hilas D. Davis, Bradford, Vt.
McClintock Bros., Ravenna, O.—Berries.
Isaac F. Tillinghast, La Plume, Pa.—Seeds.

QUERIES

WITH

REPLIES by Prominent Apiarists.

Extra Combs for Extracted Honey.

Query, No. 37.—What is the cheapest and best way, all things considered, to obtain extra combs for producing extracted honey in an apiary which has previously been run for comb honey exclusively, and the apiarist having no surplus combs on hand.—Subscriber.

Dadant & Son reply: "Use comb foundation."

James Heddon answers thus: "The cheapest method of getting such combs, that I have tried, is by the use of full frames of comb foundation. Get as many drawn out as you can before the honey-rush comes."

Dr. J. P. H. Brown replies as follows: "If I desired surplus combs as soon as possible, I should remove combs from the outside of the brood-nest, and fill in with frames of foundation, just as soon as the weather would admit of the bees drawing it out."

Dr. G. L. Tinker says that "the cheapest and best way is to use a section-case that may also be used with extracting-frames."

Prof. A. J. Cook answers as follows: "Enter into partnership with the bees, and get them to build combs on shares from wired foundation. With plenty of feed they will never break the contract."

W. Z. Hutchinson replies thus: "One year ago I should have said, 'put on an upper story, the frames of which are filled with foundation;' now I will say I think that is the best plan. Let us experiment a little more with foundation."

G. M. Doolittle says: "In such a case as this I think that I should buy foundation, for the reason that if I tried to get comb built in the upper stories, too large a proportion of it would be drone-comb."

J. E. Pond, Jr., answers thus: "My plan would be to select two or three or more colonies of known comb-building proclivities, give them frames filled with foundation, feed them very liberally on sugar syrup, and keep them at work drawing out the foundation until a sufficient number had been completed. For this purpose a cheap quality of sugar can be used, and it will be a means also of profitably disposing of unsalable honey."

G. W. Demaree replies as follows: "The cheapest way to get combs for extracting purposes, is to have them drawn out by the bees, using full sheets of foundation. Wire in the frames is not necessary if a good article of foundation can be procured, and the combs are to be drawn out in the upper story."

How to Build a Honey-House.

Query, No. 38.—I am contemplating the building of a honey-house and workshop, in the spring, so I am on the lookout for the best plan for such a building sufficient in size for the storage of fixtures used in the apiary and the comb honey gathered by 200 colonies. I should prefer a two-story building, if that be considered the most practicable. —Hinsdale, N. Y.

Prof. A. J. Cook says: "I think that the plan which I give in my Bee-Keepers' Guide is a very good one. I can suggest no better."

G. M. Doolittle answers as follows: "My workshop is 16x34 feet on the ground and 2 stories high, having 14-foot posts. In the southwest corner, below, is partitioned off a room 7x10 feet for a honey-room, in which I have stored 10,000 lbs. of comb honey at one time. The outside is painted a dark color to draw the heat from the sun, so the room will be very warm to ripen the honey. To go into detail would be too long for this department."

Dr. C. C. Miller replies thus: "Make it unnecessarily large and with a floor able to bear great weight. I have one 18x24 feet, and 2 stories high, and if I had no other room it would be too small for an apiary of 200 colonies. The work-room and honey-room should be very close and warm; the upper story may be a mere shell with a good roof."

James Heddon says: "Space forbids going into any detail description of our choice of plans. In my home apiary of 200 colonies (on an average) I have built a 2-story building, 18x30 feet, with outside stairs, and a cellar the full size of the house, and 8 feet deep. It cost about $600. I use wire-screen doors, and the windows (large) revolve within wire-screen bays. Bees, mice and ants cannot get in, unless at the doors or windows. I have two other good sized buildings in the apiary. This one is for storage of combs, etc., up-stairs, and a honey-house below. No carpentering is done in it. Always build nearly twice as large as you first think you need."

H. R. Boardman replies thus: "There is only room in this department to give a few suggestions in regard to building a bee-house. I prefer a one-story house, double-walled, floor overhead on top of the joists, bee-tight, frost-proof and dry; the ground-floor cemented to exclude mice and ants, and to prevent disturbance from jarring; ventilated from above by means of gable shutters through an air-chamber or room adjoining the bee-room or rooms, and provided with a stove; windows small and hung on pivots in the center of the sash, to tip out from the bottom; and double doors for winter and screens for summer, and joists overhead spaced right to hang the surplus combs and frames between them on strips or rabbets nailed to their sides. For 200 colonies I would have a long building with 2 bee-rooms and the air-chamber between. One hundred colonies are enough to store in one room. There are serious objections to having a workshop and bee-house combined. The concussion of pounding will seriously disturb the bees, though a partition wall intervenes; even talking loud in a bee-room will produce a disturbance."

Purifying Beeswax.

Query, No. 39.—What is the best way to purify beeswax for making thin foundation? —Boyceville, Wis.

James Heddon says: "The best of the processes in general use is, I think, to melt the wax and pour it into deep, flaring tin-tanks, packing the tanks to hold the liquid wax for several hours; then when it cakes the dirt will be at the bottom. Both the boiling and dipping tanks should also be made and manipulated so as to hold back foreign substances."

W. Z. Hutchinson answers thus: "Allow it to cool slowly over a large body of water."

G. M. Doolittle replies as follows: "The best plan that I know of, is to melt 10 lbs. of wax in a vessel, after having first put in the same, one pint of strong vinegar, together with one quart of water. After all is melted, set the vessel from the fire, and wrap it in several thicknesses of blanket or old carpet, so it will cool slowly. By this plan the wax is in agitation while liquid, and all impurities worked to the top or bottom. If strained before putting through this process, there will be nothing but fine dross at the bottom, with nothing on top."

Brood-Rearing Under the Snow.

Query, No. 40.—My bees are under the snow yet. On Feb. 9 we had another snow storm, and my hives have been out of sight since Jan. 17. There is no chance for water to run into them, and the bottom-boards are cut off even with the hives which are tipped to the front, and ½-inch holes are above the entrances so the bees can get plenty of air. Will they get too warm and start brood-rearing?—East Saginaw, Mich., Feb. 16, 1885.

Prof. A. J. Cook remarks thus: "I never succeeded better in wintering bees than when they were covered just as described. I have never publicly recommended this plan, as it is usually better to have the hives in sight; at least it is more satisfactory."

Dr. C. C. Miller says: "Not likely."

Dadant & Son answer thus: "Yes, bees can rear brood under the snow."

W. Z. Hutchinson replies as follows: "In extremely cold weather, bees are warmer under the snow, but in the weather we are likely to have from now on, bees would be warmer out of the snow. I do not think that the snow will start them to brood-rearing."

James Heddon answers as follows: "I should have no fears of the bees getting too warm. Colonies usually commence brood-rearing both out-doors and in-cellars, before this date."

G. M. DOOLITTLE says: "After losing every colony without an exception, which were drifted under the snow for a period of 3 weeks or more, I now shovel down to the entrance of each hive so covered, once a week, so as to let the cold air on the front of the hive. With me, the bees always get too warm under the snow, and start a large amount of brood, which is certain to produce disease unless frequent flights occur."

◆

Introducing Queens.

Query, No. 41.—I wish to introduce a number of Italian queens into new colonies, next season. Can this be done safely by removing the old queen and allowing the Italian queen to enter the hive with the bees? Can I return the old queen to the parent colony, and by giving the bees more room, prevent after-swarms?—Rockdale, Iowa.

JAMES HEDDON remarks thus: "To the first question I answer, no; not with any certainty. To the last question, yes, as a rule, in most locations and seasons."

PROF. A. J. COOK answers thus: "It is not invariably successful. I prefer to cage the queen for 36 hours. The last part of the question is indefinite; I can only answer no, as I understand it."

W. Z. HUTCHINSON says: "To both of these questions I say 'yes.'"

DR. C. C. MILLER replies thus: "To both questions I would reply, uncertain."

DR. G. L. TINKER answers as follows: "When nectar is coming in freely, it is quite safe to remove the queen of a colony at mid-day, and let another queen run in at the entrance after all other bees have ceased flying, just at dusk, using a little smoke immediately after the queen goes in. This is Mr. Pond's method, but when there is a scarcity of nectar, I know of no safe plan, that I have tried, to introduce queens to full colonies, but to remove the old queen, and in 9 days remove all queen-cells. Cage the queen on the frames, feeding freely; on the evening of the second day, proceed as above. To the latter question, no."

G. W. DEMAREE says: "It would depend much on the time the work was done. If done right in the best of the honey season, there is less risk. But, according to my ideas of 'safe' introducing, such a method can never be depended upon. I prefer to cage the queen, using a cage so arranged that I can release the queen without disturbing the bees, relying on my own judgment as to the time to release her. To the last question, I answer no."

◆

☞ We often get a number of notices and advertisements on Mondays, intended for the next BEE JOURNAL. As we close the forms on Saturdays, all such notices *must be here* on Saturday morning, or cannot appear until the following week.

CORRESPONDENCE.

Explanatory.—The figures BEFORE the names indicate the number of years that the person has kept bees. Those AFTER, show the number of colonies the writer had in the previous spring and fall, or fall and spring, as the time of the year may require.

This mark ⊙ indicates that the apiarist is located near the centre of the State named: ♁ north of the centre; ♀ south; ⟜ east; ⊸ west; and this ♂ northeast; ⚲ northwest; ⚩ southeast; and ⚨ southwest of the centre of the State mentioned.

For the American Bee Journal.

Temperature of Bees in Winter.

16—G. M. DOOLITTLE, (40—80).

If the readers will turn to page 533 of the BEE JOURNAL for 1884, they will there see that I found that the temperature at which bees live the longest while caged, was about 64°. From the interest I took in the experiments then given, and for other reasons, I became desirous of knowing the temperature maintained in the centre of a healthy, quiet colony of bees. As I had often tried to get the temperature of a colony of bees in the summer with a common mercury thermometer, I knew that nothing reliable could be obtained with such an one in cold weather, for the reason that it would change so rapidly in withdrawing from the hive that nothing accurate could be obtained.

I next thought of a physician's self-registering thermometer, and partly bargained for one, but upon seeing it, I found that while something accurate might be obtained by it in the hottest days in summer, it would be of no use in winter, as it would register no lower than 92°. After some corresponding and searching, I finally found a spirit thermometer which would accurately register both heat and cold. This I purchased about the middle of last January, and was only deterred from experimenting at once by the extreme coldness of the weather, for I disliked to disturb my bees in very cold weather, which I must do in order to get the thermometer between the combs.

The space required for the instrument was ¾ of an inch, while the most of my combs gave only a half-inch space between them. After waiting in vain a week or more for it to come warm so I could move the frames when the bees, which would naturally fly out, could return, I concluded that the cold weather was a golden opportunity for my experiments. Putting the thermometer in my coat pocket, I went to one of my chaff-packed hives which contained one of my best colonies of bees, carefully lifted the cover and sawdust cushion, which is 4 inches thick; I now quickly removed the quilt and pried the frames apart by shoving the first two farthest from the cluster of bees close together, and the others so as to leave a bee-space between them. In less than ½ minute the centre of the cluster was reached, and the thermometer inserted, having previously been set at about 45°, which was the temperature in my coat pocket.

When I lifted the quilt, the cluster of bees was as quiet as any colony I ever saw, yet in less than ½ minute the bees were flying from the centre of the cluster, and dying in the zero air. (I wish to call Mr. Clarke's attention to this, and ask him if they could be said to be hibernating). The hive was closed as quickly as possible, notwithstanding which many bees lay dead about in spite of my best efforts to not lose any. This was at 4 p. m., while a mercury thermometer on a post near by marked zero. The next morning, at 8 a. m., the mercury stood at 6° below zero, when I went to the hive to get the temperature, but before I could get the thermometer out, and the bees off from it, I found it sinking so rapidly that I really only obtained the heat the colony had attained, resulting from the commotion caused by my disturbing them. This heat registered 87°, with a temperature below zero outside.

I now saw that I must work my thermometer the other way, so I placed it near the stove until 100° above zero was marked on the cold side, when I set it, wrapped it in a warm cloth, and took it to the hive. The weather now became severe and blustering, so the hive was left undisturbed for 5 days. During this time the mercury went as low as 16° below zero, but in the afternoon of the fifth day, it stood at 18° above. I now took out the thermometer, having a hot cloth ready to put it into as soon as taken from the hive. It was immediately taken to a warm room, when I had a perfect register of 63° as the lowest point reached during the five days of extreme cold. In this way I have kept on experimenting for the past five weeks with several colonies until I have arrived at the following, which I think perfectly accurate when a colony is in perfect quietude:

When the mercury stands at zero outside, the temperature in the centre of the cluster is 64°, and for every 15° of change from this point (outside), the change in the cluster is one degree. Thus, 16° below, gave 63°; zero, gave 64°; 15° above, 65°; while 28° above (the highest it has been during my experiments), gave 66° in the cluster. All experiments were conducted in chaff-packed hives, as the first described. After this, I placed the thermometer within ½ inch of the cluster, at the side and on top, and found that the temperature was from 46° to 52°, according to the temperature outside, and the place where put, it being the warmest above the cluster. Some of the colonies experimented with had only stores of sugar syrup with no pollen, while others had honey with plenty of pollen, but I could see no difference regarding the temperature in favor of either.

During all these experiments the loss of bees has been considerable, owing to flight from the hive, and their clinging to the thermometer when drawn from the hive. One of the colonies has become uneasy, and shows signs of bee-diarrhea. With but one experiment, I find that this once quiet colony maintains a temperature of 75°, and if the weather does not soon give a chance for flight, they are ruined. I think that brood-rearing is being rapidly pushed forward, but I cannot well examine to see.

By the above it will be seen that bees must burn much fuel at such times when the weather is as it has been during the past five weeks, in order to warm the temperature from 16° below zero up to 63° above. This fuel is, of course, honey, where sugar syrup is not furnished. The question now arises in my mind whether all of us who are recommending out-door wintering, are not losing in dollars and cents by the extra amount of honey which must be consumed over cellar wintering; for surely it cannot take as much fuel to warm a temperature of 45° to 65°, as it does one of 16° below zero to the same point.

Borodino,⊙ N. Y.

For the American Bee Journal.

Diarrhea—Harmonizing Theories.

WM. BALLANTINE.

Some years ago Mr. Heddon advanced the somewhat startling theory that pollen (the natural food of bees), was the cause of all our "winter's discontent." Some were surprised at its boldness, others were struck with its novelty, while some were tempted out of curiosity to investigate it. It has been weighed in the balance and found wanting. But has no good resulted from it? Far from this; it has been the means of eliciting some truth.

Prof. Cook has given a *quasi*-endorsement of the so-called pollen theory. He thinks that colonies destitute of this nitrogenous food will winter better than those which have it. But Mr. Doolittle thinks that the cause of bee-diarrhea is when colonies are breeding, and when the young bees are prevented from having a flight. This he has sustained by certain observations made at various times in his own apiary. I believe that there is a moiety of truth in this, although I have never observed the phenomenon.

Reasoning from analogy, we are brought to the conclusion that insects as well as other animals, have their intestines full of a peculiar kind of matter, that must be voided shortly after birth to secure the healthy and vigorous action of the system. This matter is technically known as *meconium*. An infant, a calf, a colt, and even a lamb, will not thrive until this passes off. Is it then not a fair inference to say that the young of bees must, in like manner, have an opportunity to void this excrement to insure health and vigor?

Let us next endeavor to harmonize the theories of this trio of bee-*savants*.

It is a well-known principle that bees cannot breed without pollen. If, then, there is no pollen in a colony, breeding is out of the question. This being the case, according to Mr. Doolittle's theory, there will be no diarrhea, because there are no young bees to suffer. This will chime in with Prof. Cook's experience. With him, colonies winter better that have no pollen, and consequently no breeding.

Mr. Heddon finds that some of his colonies are dying with diarrhea, and discovers that all so affected have pollen; he has not made the observations of Mr. Doolittle, but infers that pollen is the true cause of the bee-mortality. His inference, though wrong, in charging the whole evil upon the pollen, which is as innocent of producing the death of his colonies as Vennor's theory of this being a mild winter was in producing the reverse, is, nevertheless, to a certain extent, in harmony with Mr. Doolittle's theory, which inevitably recognizes the presence of pollen.

If truth has thus been elicited, Mr. Heddon has assisted, Prof. Cook's experience has corroborated, and Mr. Doolittle's observations have contributed much to its discovery. These men are, then, not unlike the three princes in the Arabian tale, who were enamored with a fair lady, each being severely wounded with Cupid's arrows. The object of their affection being herself unable to decide the question, by making a choice, it was agreed that the three princes should travel for a year, in any portion of India, of their own selection, and the one who would secure the greatest benefit for himself and mankind in general, would be the happy party. One procured a piece of carpet of so potent a power that it would transport its owner and others whom he permitted to sit upon it, to any part of the globe desired. Another procured an eye-glass that would enable its owner and others to see any object wished. The third procured an apple of such divine power as to heal every one however diseased, that would but smell its perfume. Having all three met at the expiration of the time, at the place agreed upon, each confident of being the victor, one happened to look into the glass, and saw the object of his affection in the agonies of death. This being announced to the other two, the possessor of the wonderful apple exclaimed: "If I only were there I could cure her in a moment." The owner of the magic cloth said, "All right; let us three just sit down on this cloth and we will be there instantly." They did so, and by the application of the apple, the object of their love was immediately restored. But the question who the happy one should be, was just as undecided as ever. The one with the glass claimed that if it had not been for it, they would have remained ignorant of the sickness of the princess; the one with the cloth asserted that it was instrumental in bringing them to her assistance; while the one with the apple of marvelous virtue, claimed that the other things were good, but if it had not been for his apple, the princess would have died in *their* presence.

So Messrs. Heddon, Cook and Doolittle are all entitled to some credit, if we have at last found the truth on this subject; but if we have not discovered it, progress is made. Let Mr. Heddon proclaim any and every bold and novel view that his fertile and imaginative mind can suggest; and it will be tried in the crucibles of hundreds of philosophical minds, and purged from its dross. If it contains the millionth part of a grain of truth, it will be eliminated and carefully added to the already accumulated and fast-accumulating treasury of bee-science; if it does not contain a single atom of truth, it must and will be rejected.

Sago,⊙ Ohio.

Northeastern Convention.

The sixteenth annual convention of the Northeastern Bee-Keepers' Association was held in the City Hall at Syracuse, N. Y., on Jan. 21-23, 1885.

FIRST DAY.

The convention was called to order at 1:30 p. m. by President Root, and after the calling of the roll, the Secretary read the minutes of the last meeting, which were adopted. The Treasurer then made his annual report, showing a balance on hand of $43.39. On motion, this report was accepted.

On motion of the Secretary, it was agreed that all the committees should report on the morning of the 23d. The Secretary appointed Silas M. Locke as reading clerk. An essay on "The Coming Bee," by James Heddon, was then read and discussed.

"Is stimulative feeding profitable and practical?" It was the general opinion that bees should not be stimulated to undue activity in early spring, as it causes them to breed too rapidly and waste while on the wing, in search of water, etc. Different methods of feeding were described, and the convention seemed to favor placing the food inside of the hive, in preference to feeding in the open air. All agreed that it was beneficial to feed the bees between fruit-bloom and white clover.

"Will it pay to sow or plant for honey?" It was generally concluded, that it would pay, especially on poor land, to sow for bee-pasturage; and abundant evidence was given to prove that Alsike clover not only yielded well as a honey-plant, but also made a fine quality of hay.

Bee-keepers were advised to set out as many basswood trees as possible. They thrive best by streams of water, or in a somewhat moist soil, but will grow in almost any good soil. They should be set out almost 10 feet apart. One of the members spoke in favor of the yellow locust, as it comes into bloom between fruit and clover bloom, and also was very valuable for posts. Mr. Vandervort got honey from the pea-vine or white clover. The farmers in his locality pronounce it excellent for hay.

"Spring dwindling." A number of causes were suggested, such as poor wintering, which caused diseased bees; a poor quality of honey for winter food; a lack of sufficient winter stores, properly placed; an undue consumption of food, during winter; unusual activity in early spring, caused by disturbing the bees (which was considered detrimental), and too much fall honey. E. J. Hetherington thought that spring dwindling was the result of constitutional weakness caused by poor wintering conditions that impair their vitality. He also thought that the conditions that governed bee-keeping had materially altered within the last 15 or 20 years, bringing atmospheric changes. As a prevention, it was advised that a good quality of honey or sugar syrup, well sealed, be given the bees for winter stores, and not fed "too late" in the fall, 25 to 30 pounds being sufficient. Keep the bees warm, snug and dry, and do not disturb them so as to create undue excitement too early in the spring.

A committee was appointed, before whom all kinds of questions shall be submitted, before such question shall be brought before this convention. The following were appointed as such committee: Arthur Todd, C. G. Dickinson, and G. H. Kinckerbocker.

Adjourned to meet at 7 p. m.

After the opening of the convention, Mr. Arthur Todd, of Philadelphia, Pa., read a communication from Mr. Frank Cheshire, of London, England, who has made "foul brood" a study. Mr. Cheshire was made an honorary member of the Association. Mr. Todd announced that he would have "bacilli" and "spermatozoa" ready for microscopical examination on Thursday.

In the absence of Mr. Alley, who was to deliver an address on "Rearing Queens," Capt. Hetherington was called upon. Mr. H. stated that he had tried the experiment of introducing young and fertile queens to a colony in summer, in order to prevent swarming, but it had utterly failed. He had also experimented with introducing queens in cells protected by a film of foundation, which was wrapped around them, and, during the first season, had succeeded in introducing two or three hundred successfully; but on further testing, failures resulted. He did not wish to recommend anything new that had not been tested more than one season.

After some discussion, an article from the "Sun" was read, wherein it was stated that the queens of a certain bee-keeper had laid fertilized eggs, without having left the hives to meet the drone, the drone-larvæ being introduced into the royal jelly just after the queen-cell was sealed. Mr. Goodspeed had tested this, but was not sure of the results. He, however, protested against tampering with the cells.

"Dollar queens—their effect on the bees of the country," was discussed. The convention concluded that the cheap queen business is detrimental, and has done an immense amount of harm. Oftentimes they are not worth the price paid for them; but are sent out, without any test.

The subject of the "Best arrangement for comb honey," was then taken up, several parties having brought with them, for exhibition, various arrangements for securing comb honey; and these were described and commented upon.

SECOND DAY.

After opening the convention, President Root announced the following standing committees:

Resolutions—C. G. Dickinson, Arthur Todd, and J. Van Deusen.

Exhibits—Ira Barber, I. L. Schofield, and Geo. H. Knickerbocker.

Question Drawer—N. N. Betsinger, A. J. King, and Geo. W. House.

S. M. Locke then read an essay on "Introducing Queens." He said: The introduction of queens is, with me, a difficulty of the past. We introduce thousands of virgin queens every year, with no loss when care is used, and but very few even when done hurriedly. I have had a number of virgin queens caged in one hive, and have liberated one at a time. The first would usually mate on the first or second day, and as soon as mated I would cage her again, and liberate another, and so on. By this means, one could, in a few days, have 5 or 6 virgin queens all in one hive mated, and ready to be disposed of as circumstances required. Either nuclei or full colonies can be used; or if there is a short season when you do not care to have the old queens lay, cage some of the virgin queens in the hive, and before liberating them, cage the old one, proceeding as above, thus securing many fine queens. A queen should not be allowed to remain in a colony, till such time as she is so old and feeble as to require "crutches" to get around. Rather than allow that, I would prefer to have two queens laying in one hive at once.

"The marketing of apiarian products" was introduced. A general discussion ensued. Mr. King referred to the British honey organization, for example. California had secured an unusually large crop last season, which was put on the market at the same time with our own, and at low prices. This together with the general hard times, has brought about a glutted honey market. It was generally conceded that bee-keepers "must" work unitedly, in making a demand for honey, disposing of as much of it as possible, in home markets. To do this, it was suggested that bee and honey exhibits be held in connection with our county fair, and every means used to educate the people as to the value and uses of honey. Neat packages, labels, etc., had much to do with the sale of honey.

"What can be done to increase the demand for extracted honey?" The general opinion concurred with those relating to the sale of comb honey. Work up a home trade first, next put honey into the hands of those who use sweets in candies, medicines, cakes, canned fruit, etc., and wherever honey can be used to advantage; also have some neat pamphlets printed to give away with the honey.

Capt. Hetherington heartily endorsed the use of comb foundation in the brood-nest and in the boxes, and in the latter, foundation not more than 11 feet to the pound. Mr. Doolittle had found that if the bees were filled with wax secretion, they used that instead of the foundation.

Mr. Locke read a communication from Messrs. Thurber & Co., of New York City, requesting the Association to sign a protest against the proposed "Spanish Treaty," and a petition was signed, asking the United States Senate that the article admitting Cuban honey free into this country be stricken out of the proposed treaty. Messrs. Todd, L. C. Root, Vandervort, Betsinger, Locke and Elwood were appointed to present the petition.

The election of officers resulted as follows: L. C. Root, President; Frank I. C. Berick, Secretary; and I. L. Schofield, Treasurer.

President Root then read his annual address.

On the question of compelling recognition from our legislatures and agricultural societies, it was decided that united effort was necessary, and Capt. Hetherington in corroboration of this, gave his experience in working up an exhibition at the Centennial. The bee-keepers did not respond and join him as they should, and which, had he not worked hard, would have resulted in entire failure. It was decided that bee-keepers' exhibits should be connected with every agricultural fair, etc. The agricultural societies will welcome us when we do our part. There is no need of compelling the agricultural societies to do "their" part; when "our" associations are so organized that we can act unitedly, then we can make displays and exhibitions that will find a welcome anywhere. Let us do our part, and then we shall have something to offer the agricultural associations, when we appeal to them.

Mr. N. N. Betsinger stated that "atmospheric changes" was the cause of foul brood. The cure of the disease could only be effected by carrying out certain laws. Carbolic acid had been suggested as a cure; but in his opinion, it was worse than the disease. Fermented honey or pollen would cause the disease. He had learned by experience that if the fermented honey alone were fed, in less than ten days foul brood would appear. Such fermented honey was oftentimes found in the blossoms. In the cold, wet seasons, the disease prevails, because such seasons are favorable to fermentation. In dry seasons foul brood is never found. A complete cure would be found in simply feeding salt. Make a strong brine immerse the combs over night, and it will positively cure. As a preventive to the disease, keep a little weak brine in the yard, where the bees can get at it. Mr. B. partly fills a nail keg with sawdust, salt and water, and enough will ooze through the staves for the bees.

The discussion following Mr. Betsinger's remarks was extremely animated, as the idea of treating colonies to brine was considered by many as an original and questionable one.

The Convention then adjourned to meet at 7 p. m.

[*To be continued.*]

For the American Bee Journal.

Good Report from Cuba.

A. W. OSBURN.

In my last article on page 794 of the Bee Journal for 1884, there was no positive evidence that I could be able to make a favorable report of our year's work, or of the honey resources of this country. At that time we could only muster 113 colonies in weak condition to store honey; for after a 4-months' honey-dearth none but the Holy Land bees were in any condition at all to gather the harvest that was so close upon them.

On Dec. 1 the bell-flower opened, and for 60 days these 113 colonies gathered honey as bees seldom do, I think; for at the end of 60 days the bell-flower bloom was pretty much gone, and the bees had stored 40,125 lbs. of extracted honey, making an average of 355 pounds per colony, with 10 pounds to spare. Good as you may think this yield is, it is not what is possible or probable, in Cuba, with bees in proper condition; but ours were not. A few of them, by Jan. 1, were in average condition for storing, and one of these stored 620 lbs.

This honey crop is to be credited to the great amount of honey secreted by the bell-flower, and not to our management, for that has been one succession of blunders from the time we landed the bees here, until last fall, when it began to dawn upon our beclouded vision that different management was necessary here from any other place in which we had ever kept bees. One thing we know, and that is, for Cuba the Holy Land bees are far superior to the Italians. Why? Because they will breed through the fall months and the dearth of honey, and when Dec. 1 comes with the honey harvest, they have bees to gather it; while the Italian queens cease laying as soon as the honey stops coming in from the fields about July 1, and when Dec. 1 comes, they have hardly bees enough to protect their combs from the moth. Now, do not let any one understand me to say that I do not like the Italians—not by any means; they are all right for a summer honey-flow, but our honey-flow here comes right after a 4-months' dearth, and, as old bee-keepers know, there are but few strains of bees that will breed when there is no honey coming in. The Holy Land bees are much better in that respect, than the Italians, and, therefore, we consider them far preferable for this country.

Cuba, W. I.

For the American Bee Journal.

Report, Honey-Racks, Sections, etc.

D. VIDETO.

In the spring of 1884 I had 90 colonies, all strong and healthy for the season's work. Eleven had become queenless during the winter, some of which were dead and others nearly so, which were united to other colonies. Seventy were run for comb and 20 for extracted honey.

The season, here, was very poor; basswood and chestnut did not secrete any honey. White clover seemed abundant, but reluctantly yielded up its sweets. Very few colonies swarmed which were hived with the parent colonies that had cast a swarm from 1 to 5 days previous, after removing 2 or 3 frames of brood and honey, pinching off the queen-cells, and putting on surplus from the parent colony with one extra empty case of sections. This system, though highly recommended by some, proved a failure with me, as two-thirds, at least, swarmed out and seemed so demoralized that they reluctantly staid anywhere within bounds of the apiary. About one-third worked well, and from these and such colonies as did not swarm, I secured my surplus—about 2,500 pounds.

I sold white comb honey in one-pound sections, put up in nice crates, for 17 to 20 cents per pound, and dark, for 14 cents. This kind of honey passed off very nicely, and I hardly realized that the people were groaning under the pressure of "hard times;" but when I offered the extracted, the times to all appearances had changed—nobody wanted that kind of honey. The grocers had a supply, and could not sell their last year's stock. I took the trouble to examine their honey, and in every case I found it looking dingy, rusty and uninviting. After a careful survey over the extracted honey in the market, with its evident unpopularity, I became convinced that the less there was of this stuff forced upon the people, the better it would be for those bee-keepers who would desire to furnish the consumer with a nice article, inviting to look at and palatable to the taste.

After experimenting with the Heddon honey-rack with a slat honey-board, I am satisfied that no better is wanted. I made 100 cases with wide tin strips attached to the bottoms, on which the sections rest, thus avoiding a honey-board; but I do not like it so well. The objections are, the sections become glued to the tins and are not easily removed; besides, it is almost impossible, after removing the filled sections, to put in new ones without crushing bees. This difficulty, of course, may be averted by removing the case, but this being held down by the brace-comb attached to the brood-frames, makes it inexpedient.

I very much prefer the one-piece section to the dovetailed; not that they look any better when filled with honey, but they are much more easily cleaned and handled when working unfinished sections over for storage and use another season. I think that more patience is needed than the average bee-keeper possesses, to clean up one or two thousand dovetailed sections containing starters of foundation well drawn out, which is very desirable, and should be preserved. The place to store these sections is in the cases, in a clean room.

I would not use very much foundation in the sections. The "fish-bone" is very noticeable upon our table. Mrs. Videto cuts the honey down from either side and politely invites me to use the same to fill another section. In some instances, if I use very light foundation, the bees cut it down; if heavy, the bees accept it and add wax and honey to it. I do not think that bees draw out the foundation, as has been stated so often.

My 120 colonies had good flights on Dec. 29 and 30, 1884. Since that time part of them have been buried in snow, and all, I think, are enjoying their cold winter's nap.

North East, Pa.

For the American Bee Journal.

Comb Honey Production.

S. CORNEIL.

Bee-keepers should now be getting their hives and surplus cases ready for another season, and as there has been much said about hives containing continuous passage-ways, and hives with cases having two empty spaces to be crossed before the bees reach the sections, the results of a trial of these hives in adjacent apiaries during the past season may be interesting.

My neighbor, Mr. T. J. Webster, and I had 80 colonies each in the same kind of hive, the closed-end Quinby, at the beginning of the honey season. Mr. Webster worked 50 colonies, and I 59 for extracted honey, both using our old hives for that purpose. From my 59 colonies I obtained an average of about 85 pounds per colony, and from his 50 Mr. Webster secured an average of about 120 pounds each, showing that his field was better than mine. For comb honey, Mr. Webster used the Heddon-Langstroth hive and case, and I adapted a Tinker-case to my own frames, which are 10x16 inches, inside measure. My 21 colonies averaged almost 20 pounds each, while Mr. Webster got less than 4 pounds each on an average from his 30 colonies. Our increase was the same, each having 154 colonies ready for winter quarters. I fed 1,600 pounds of sugar, and Mr. Webster fed nearly 1,500 pounds of honey for winter stores.

As to experience in the production of comb honey: Mr. Webster was producing and selling comb honey for years before I commenced keeping bees. Both of our yards are well stocked with the best strains of Italian bees, and here is, I think, the explanation of Mr. Webster's failure in producing comb honey in a comparatively poor season. It is generally agreed, that to be successful with the Heddon case, either black bees or hybrids should be used, because the Italians are slow to cross the two empty spaces between the brood-frames and the sections. Mr. Webster's bees were too highly bred for that style of case, while mine, having continuous passage-ways from the brood-frames to the sections, had no such objections to going above with their surplus honey. This is the only explanation I know of for the difference in our results in producing comb honey.

After using hives with continuous passage-ways, I am free to say that I like them. I think that I can work as fast with them as with any other style, at the same time killing as few bees, and I never used either a "wedge," "chisel," or "brush-broom," nor did I ever need them.

Lindsay, Ont.

For the American Bee Journal.

The Cause of Bee-Diarrhea.

C. W. DAYTON, (50--112.)

If Mr. L. L. Triem (page 123) is sure that the colonies spoken of were breeding, and that the syrup given them entirely covered the pollen, then the natural supposition is that the bees would have remained as restless as before, until some pollen could have been obtained for the brood; but as by the pollen theory, perhaps the bees were made listless by the syrup, and, hence, it is amenable. That the hive of a diarrhetic colony, in a warm temperature, and at the time of the first outward appearance of the disease, should appear to be crowded with bees, is a logical and general sequence; but how old bees may be distinguished from young ones when in winter quarters, is not as apparent. Quite undoubtedly, instances of this kind will be a boon to such theorists as W. F. Clarke.

Sometime previous to the appearance of the diarrhetical evacuations, which time is greatly varied by conditions, a number of bees in the then quietly clustered colony may be seen to slightly move their bodies as if they were in the act of drawing a full breath, and frequently a single bee will suddenly run about the cluster as though seeking a more suitable place to rest. These movements are the first visible signs of the disorder. Day by day the movements increase until each bee in the whole cluster will appear as if striving to better its position, and there will be a corresponding number of bees running about the hive and sipping moisture, if there is any to be found or appearing at the entrance to the hive. When on entering the cellar, and the bees appear at the entrances of the hives, there could be no plainer language by which to tell us that the conditions within their hives were such that they could not rest.

At about this time, if the covering of the brood-chamber be raised, one will be met by an odor which exactly resembles that from a very sour vinegar barrel. This odor generally (always in my experience) causes the uneasiness, and when Mr. Triem removed the burlap covers (as stated on page 123) the odor escaped, and the bees were found tightly clustered in the space of three days. Burlap, it appears, was too thick; yet a chaff cushion, with right conditions, might have been too thin a covering for the brood-chambers.

As this odor mingles with that of the cellar, the odor is formed which is a characteristic of the atmosphere of all cellars in which many bees have died of diarrhea. After a colony has manifested considerable uneasiness by the brisk movement of the bees on the approach of a light, some of the bees, though not having overly distended bodies, will begin spotting the combs or hive.

On page 5 we find Mr. Doolittle going back several years ago in order to find a case for the substantiation of his theory. Soon after reading Mr. D's article, I went to my bee-cellar and examined the combs in 8 colonies having diarrhea, and found brood in but one comb, and then only in three cells. On page 325 of the BEE JOURNAL for 1884, I wrote that when I moved 60 colonies to the summer stands, after a confinement of 145 days, 11 of the 15 diarrhetic colonies were amongst the 44 having no brood. Again, on page 663 of the same volume, I gave a preventive or cure (whichever it may be) which has been fully substantiated as correct by the past winter's experiments,

If any bee-keeper will, just before a cool and rainy day, remove the cover to a hive so that the water may run upon the combs containing brood, by the next morning the colony will be afflicted by a disorder that resembles diarrhea in every particular, and if the colony should then be placed in a dry atmosphere, in the space of 24 hours, the signs of the disease will be found to have disappeared.

So long as bee-keepers continue to wait until the bees are nearly afflicted to death before giving their attention, and so long as bee-keepers go on releasing that foul odor or allowing the escape of moisture while administering tinctured syrup, and then attest all cures to the effects of the syrup, just so long may they be expected to merit darkness and confusion regarding the cause of bee-diarrhea.

Bradford, ‸ Iowa.

For the American Bee Journal.

E. Iowa and W. Illinois Convention.

The third annual convention of the Eastern Iowa and Western Illinois Bee-Keepers' Association convened at 2 p. m. at Moore's Hall in Davenport, Iowa, on Feb. 18, 1885.

The meeting was called to order by President I. V. McCagg, and on motion, the reading of the minutes of the last meeting was dispensed with ; the reports of the officers were postponed until the next afternoon. The election of officers was also deferred until the next day.

Twenty-one members reported 976 colonies in the spring of 1884, and 1,302 in the fall ; 25,911 pounds of comb honey produced during the season of 1884, 1,950 pounds of extracted honey, and 228 pounds of beeswax ; 712 colonies were put into cellars last fall, and 590 were left out-of doors.

President McCagg, L. H. Scudder and C. H. Dibbern were appointed a committee to present resolutions upon the death of John Madden.

HONEY-DEW.—Mr. Wadsworth said that bees did not work well on clover during the past season in his section ; he did not know the reason for this, as there seemed to be enough clover in bloom. He said that they stored considerable honey-dew from the maple trees, but they used the most of it for breeding purposes. Contrary to his usual experience, his bees swarmed, and some absconded. His queens' wings were clipped, and yet they swarmed. He does not think that honey-dew is injurious, but he is not certain. Mr. Gast had seen the bees at work on almost all kinds of forest trees, but he is not certain whether honey-dew is caused by the bark-louse or some other plant-louse. He said that it made him uneasy, for he feared they would fill the brood-combs with it, and that it would prove injurious. His bees had gathered the bark-louse honey mostly in the fall, as his clover honey was as white as usual, but his fall honey was not. He had seen them work very hard on the walnut and black-oak trees. Mr. Dibbern said that his clover honey and fall honey were as good as usual. He thought that his bees gathered very little if any bark-louse honey. He said that it was new to him to learn that bark-lice were on other than the maple trees, as he had seen them only on the soft maple trees. Mr. Scudder said that his honey was gathered mostly from white clover during the first honey-flow, and from motherwort, catnip, smart-weed and heart's-ease in the fall. He did not think that they gathered much honey-dew, as it lasted only a few days. Mr. Wright said that his bees had gathered some honey-dew in the fall, and that he always found it in the inside sections, those near the outside generally containing good honey. Mr. Scudder said that during the fall of honey-dew, he had seen the bees on the grass and hedges, but could not account for their being there. President McCagg said that bark-lice thrive best on trees which grow on damp ground, in his section, as he noticed the trees on high ground had very few lice on them, while those on low ground were covered with lice.

SWEET CLOVER.—Mr. Dibbern though that it was worth $50 per acre to bee-keepers. He cultivates it in rows 4 feet apart, and plants it two years successively, as it does not bloom the first year, but the second year his was 14 feet high and bloomed freely when it seeded ; but plants from this seed will not bloom the next season, but if planted for two years successively, there will be a continuous bloom. He had the best success in sowing it with oats, as the oats could be cut for feed, and thus pay for the use of the ground the first season. Mr. Scudder said that he thought it paid to sow sweet clover, and that Mr. Dibbern did not exaggerate any when he said that it was worth $50 per acre. Mr. Gast also thought that it paid to plant sweet clover, and he said that his cattle would eat it. He had the best success when sowing it alone, as he had sown some with oats, and the oats had choked it out. Mr. Dibbern said it required about 15 pounds of seed to the acre. He also said that cattle would eat it down when planted on the roadside, and thus interfere with its blooming. Mr. Wright said that he favored the sowing of sweet clover, as he thought that most of his honey came from that source last season.

HALF-POUND SECTIONS.—Mr. Dibbern said that he could produce as much honey in half-pound sections as in the two-pounds. Mr. Osborn said that he had the same experience ; he had arranged half-pound, one-pound,and two-pound sections on one hive, and the bees filled them all at the same time. Mr. Scudder said that that was the best argument in favor of two-pound sections that he had ever heard, for if the bees would fill the two-pound sections as quickly as the half-pound or one-pound, he would certainly use the two-pound sections. Mr. Dibbern said that he had placed 72 half-pound sections and about half as many one-pound sections on the hives, and the bees filled one lot as quickly as the other. He said that the one-pounds were small enough for him. Mr. Scudder said that the largest average yield which he ever had was obtained in two-pound sections, being 150 pounds per colony, spring count.

OVERSTOCKING A LOCALITY.—Mr. Scudder said that it was a puzzle, for in a given locality there may be a thousand colonies, and one year they will do well, and the next year they will do poorly, and people will say that it is overstocked. Mr. Moore had 5 colonies, and only one of them stored any honey. Mr. Goos said that the one that gathered all the honey was probably the only strong colony among them.

Mr. McCagg said that he had a colony in a hive that had two holes in either side just above the bees, and he left them open so the wind can blow right over the bees, and he has never lost a colony in this hive.

On motion, the meeting then adjourned until 9 a. m. the next day.

The Convention was called to order at 11 a. m. by President McCagg. The committee on resolutions on the death of Mr. John Madden, then gave their report as follows :

WHEREAS, It being the will of God to remove from our midst one of our most zealous and ardent workers in apiculture, Mr. John Madden, who died on Sept. 19, 1884 ; therefore, be it

Resolved, By this Society that in the death of Mr. Madden we lose one of our most enthusiastic workers and supporters of this Association ; although young in the culture of bees and production of honey, still he was one of the main pillars of apiculture, always ready with his kind, genial and social manners to give advice, or to lend a helping hand when and wherever needed. He was a kind husband, a loving parent, a genial friend, and a willing neighbor ; mourned for by a loving wife and children, as well as a large circle of acquaintances, we can truly say that no member of this Association called from his labors on earth to that of peace and quietness, would be more missed and mourned than Mr. John Madden.

Resolved, That this be placed upon the minutes of the Association, and also that a copy thereof be furnished the widow.

HOME MARKET.—Mr. Sutherland said that he had sent all the members of this Association a circular in which he described a plan for creating a home honey market, his object being to canvass, the town and bring the honey before the people at regular intervals. He also asked that the Association form a bee-keepers' union, and he and Mr. Wells would act as managers and take the honey produced by the members, bring it before the people regularly, and thus create a demand and enable them to keep up living prices. He would deduct 2½ cents per pound as commission from retail prices, and asked that the Association endorse the plan. On motion, Josh. Wadsworth, Wm. Kimball, Geo. L. Gast, E. R. Wright, and C. H. Dibbern were appointed a committee to act on Mr. Sutherland's proposition.

Adjourned until 2 p. m.

The meeting was called to order by the President at 2 p. m., and the first thing in order being the election of officers, the following were unanimously re-elected: I. V. McCagg, President; Geo. L. Gast, Vice-President; Wm. Goos, Secretary; I. Hall, Treasurer.

The executive committee reported that they were in favor of holding the annual picnic at Black Hawk's Watch Tower, south of Rock Island, on Aug. 13, 1885, and a motion to that effect was carried.

It was decided that the next annual convention be held in Davenport, Iowa, on the third Wednesday and Thursday in February, 1886.

The thanks of the Association were tendered to the officers of the past year, and Josh. Wadsworth, C. H. Dibbern, and E. R. Wright were appointed a committee to arrange for the next annual picnic.

Mr. Wm. Goos then read an essay on "Wintering Bees," in which he discussed the pollen and hibernation theories, and gave the results of his experiments and observations in wintering bees.

The report of the special committee appointed to act on Mr. Sutherland's proposition, was then read as follows:

The committee to whom was referred the proposition of the Bee-Keepers' Union, report that they have duly considered the matter, and while they commend the objects of the Union, and cheerfully recommend the projectors of the same as worthy of confidence, yet they deem it not advisable for this Association to commit itself further to the project.

The report of the special committee was approved, placed on file, and the committtee discharged.

The convention then adjourned until the above-mentioned time.

Wm. Goos, Sec.

I. V. McCagg, Pres.

* * *

For the American Bee Journal.

Honey-Plants and Hibernation.

S. J. YOUNGMAN.

As I have seen some mention, in the different bee-papers, of the *Epilobium*, or willow-herb, I would like to have bee-keepers generally know some of the peculiar traits of the plant, so that none may be deceived. In this latitude, 43°, it grows in great profusion, but yields no honey whatever, as I have no recollection of ever having seen a honey-bee working on this plant in this vicinity; but in the northern counties of this State it is one of the chief honey-plants, yielding honey in large quantities and of good quality. It will never pay to plant it for honey alone, where land is valuable for farming purposes.

For any one wishing to sow for honey, why not sow Alsike clover seed? I have tried it, and find it a fine honey-producing plant, yielding a large amount of nectar, and it is visited by the bees at all times of the day. It also makes a fine quality of hay, and good pasture for all kinds of stock. It will thrive on wet as well as dry land, and in fact, it will grow where red clover will not. Buckwheat is also a good honey-plant, and the grain with the honey, which it usually yields, makes it a paying crop for those having a large number of colonies of bees; but the honey is of inferior quality, and unfit for wintering bees.

Some are carrying the hibernation idea rather further than it will stand, and they are including in their category, some animals that do not hibernate, among others, the hedgehog and porcupine, which live in hollow trees and never build nests of any kind. They are voracious eaters, scarcely ever missing a feast of their favorite food, the tender bark of trees, every 24 hours.

These scientists being so badly mistaken concerning the habits of this well known animal, perhaps they should be more careful in attributing this mysterious characteristic to the honey-bee.

Cato,⊙ Mich.

* * *

For the American Bee Journal.

Hives, Frames and Feeding.

L. C. JOHNSON, M. D.

All brain-workers—indeed all busy men—should have some avocation wholly different from their ordinary vocation; that is, something which is more than an amusement that shall call aside the mind from its ordinary pursuits, into channels altogether different. Such an avocation I find in apiculture. Although some writers would drive out from the business all who are not professional apiarists, yet it is true that the history of our art shows that amateurs have been of very much greater service than injury to the business of bringing nectar, the "food of the gods," to the tables of men.

Believing that to get the best results we must not only have the best race of bees, but give them the best of accommodations, after some thought and a great deal of experimenting, I am now best pleased with the following described hives and frames, though probably not the best, yet I think them good.

The hive is made of lap barn-siding ⅞ of an inch thick, and it is 41 inches square, outside measure, and arranged to contain 4 colonies, one side of the hive opening to the east, one south, one west, and one north. The outside walls are first nailed together, next the inside bottom is nailed in 4 inches from the bottom of the outside walls, next, straight partitions are put in from the inside bottom to the top of the hive, thus dividing it into four compartments 19 3-16 inches square, inside measure. For the lower story, a partition is now put in each compartment, dividing them unequally, the room next to the central partitions, the brood-chamber, being 15⅛x19 3-16 inches, and the smaller or outside space being 3⅛x19 3-16 inches. The latter is now filled with sawdust, and a board fitted and nailed over it. A ⅞-inch board is now nailed in the outer end of the brood-chamber, and a ½-inch board in the inner end, so it now measures 15⅛x18⅛ inches, inside measure, and takes the Langstroth frame.

Ten simplicity wide frames, each holding 8 one-pound sections, are used in the upper story; they reach from the outside wall of the hive to the central partitions, crossing the brood-chamber and the chaff packing. There is thus room for 80 pounds of surplus honey per colony, or 320 pounds to the hive.

The hive is now turned bottom upward, and the chaff or sawdust filling put in, and the outside bottom nailed in. The entrances are next cut ⅜x8 inches, slanting slightly downwards, then an alighting-board 4x12 inches is nailed at each entrance.

The roof is made from 12-inch, lap barn-siding, of which 4 boards nailed upon cleats form one side of the roof, the lower cleats fitting against the outside of the hive, while the other rests in a notch sawed at the centre of the gable ends of the hive; one side of the roof overlaps the other, as do the shingles at the comb of an ordinary house-roof. The total cost of this hive without frames, including one day's work to make it, is $3.55, or 88¾ cents per colony, for a complete two-story chaff hive.

The essentials of a good hive are: 1. It must thoroughly protect the bees from winter's cold, from spring and autumn's sudden changes, and from summer's heat. 2. It must afford good facilities for brood-rearing below, and for surplus storage above. 3. It must have good ventilation above and below. 4. It must be convenient for man. 5. It must present a neat and tasteful appearance. 6. It must be cheap and durable.

In the lower story of the above-described hive, each colony is surrounded on one end and one side by other colonies, on the other side by a double wall and 3⅛ inches of chaff or sawdust, and on the entrance end by a double wall with a sheet of heavy siding-paper between them; and in the fall, winter and spring, the bees are covered by a chaff cushion in the upper story. In summer the bees are more removed, and so better protected from the sun's rays than in single-walled hives. It is ventilated below by the wide entrance, and above by screen-covered holes through the gable-ends of the hive. The 10 brood-frames below with 10 wide frames above afford the amplest facilities for brood-rearing and for surplus storage. In addition to the above features, this hive is neat, convenient, cheap and durable, so, in my judgment, it fulfills the conditions for a good hive.

The frame that pleases me the best is the Langstroth frame made reversible by sawing off the ends of the top-bar even with the end-pieces; a strip of tin as wide as the end-pieces of the frame are thick, and 3 inches long, is tacked over each corner of the frame, thus forming a staple the width of the frame, which staple extends far enough beyond the top and bottom bars to permit a strip of hoop-iron to slide between it and the bars. This hoop-iron is 2 inches long, and has one end bent downward thus ⌐.

These strips slide through the tin stirrups at either the top or the bottom of the frame as desired. The hoop-iron being bent squarely downward, its end rests on the shoulder of the hive, thus obviating the necessity for metal rabbets to the hive. This attachment adds greatly to the strength of the corner of the frame, at the same time it is reversible.

The advantages of reversible frames I conceive to be these: 1. They enable us to get them full of comb solidly attached to both top and bottom bars—a very great advantage when handling heavy frames of honey in warm weather, as in extracting. 2. When the bees are disposed to crowd the queen by putting honey in the top of the brood-frames, by reversing the frames, we may induce the bees to carry the honey to the sections above where we want it; we thus secure the honey we want, and room for the most prolific queen. I presume they carry the honey above because their instinct teaches them to keep their honey above the brood. The same attachment being applied to the wide frames ought to enable us, by reversing the sections, to get them solidly filled with honey.

Now, as to bee-food: There are at least three points of vital importance about winter food for bees: 1. Quality of food. 2. Time of feeding. 3. Quantity of food. The food should be the best of honey, or syrup made from pure cane-sugar (I use the best grade of granulated sugar dissolved in cold water). The time of feeding should always be early enough in the fall for the syrup to be put into the cells, ripened and sealed over; in this locality I should say, before the middle of October. The quantity, I think, should be 25 pounds per colony. I do not think that if a colony is properly hived it will consume half this amount during an average winter (at least mine do not), but they can use it all profitably during early spring breeding.

In this latitude I think it best that all colonies shall have enough pollen for early brood-rearing, in order that the colonies may be sufficiently strong for the white clover harvest. We need a large number of careful experiments to determine certainly whether colonies having pollen of their own gathering stored in the hive, or those fed with rye meal in February and March, or those having to wait to gather spring pollen in order to begin brood-rearing, shall be in the best condition for the June honey-flow. My own experiments thus far indicate that to have pollen of their own gathering in the combs is much the best, and next best is to feed rye meal in February and March. My experiments on this subject have been but few, having had only 12 colonies one winter and 24 the next, and these, of course, are too few to settle the matter in favor of any method. The coming spring I shall be prepared to report from much larger numbers.

Belonging to the subject of bee-food, is the question of the best formula for food for shipping queens. After having tried various formulæ, I think that used by Mr. Benton is better than any of which I have any knowledge. Indeed, the purity of its ingredients, and the method of its preparation cannot fail to produce a perfect queen-food. With proper food it has now been demonstrated that queens will live in queen-mailing cages at least from 4 to 6 weeks. I have received queens through the mail which, after their journey of thousands of miles, were in perfect health and prime condition.

It seems to me that in a perfect hive and perfect food lies the solution of the wintering problem. I think that it would be of exceeding interest and value to have reports from the large field of correspondents, of their experience in wintering in chaff hives; and under this head I include all double walled hives, whether packed with chaff, sawdust, or shavings.

Fountain City, Ind.

* * *

For the American Bee Journal.

Pollen and Brood-Rearing.

13—WALTER HARMER, (29—56).

As my observations so far have made me a believer in the pollen theory, I would like to suggest some questions which Mr. Doolittle's article, on page 134, seems to call for. Mr. D. describes an experiment with a colony having brood in all stages, considerable pollen, but no honey, and how the bees fared for the next few days, eating the eggs first, then the larvæ, next the more developed brood, and last of all the pollen. We see by this that bees loathe to feed on pollen alone, and will often starve first, as proven by Mr. D. in his experiment spoken of in the first column of the same article.

Mr. D. says that from these observations he has formed the opinions which he had heretofore given, that old bees only partake of pollen in the form of chyme. Mr. D. tells us what this chyme is made of, and if he is correct, as I do not doubt, it was impossible for the bees to make chyme in either of the cases spoken of after the honey was all consumed. Now, if old bees will not or cannot eat pollen unless it is digested for them and formed into chyme, what bees make the chyme for the brood in the spring, when a colony has been without brood for six or seven months (as I believe they often are), as there can be none but old ones in the hive? I believe that old bees can make it, and that they will also often eat pollen rather than starve when there is no brood in the hive, for I have had what I would consider conclusive proof, one case only a few days ago which resulted in diarrhea and death.

Mr. D's answer to Query No. 28, gives rise to other questions on the same subject. His answer is: "Brood-rearing resulting in pollen, in the form of chyme, being eaten by the bees which gave them the diarrhea." Now, as bees will often have the diarrhea without all the material for making chyme, I do not think that it (chyme) will give it to them, especially as the most indigestible parts of the pollen have been retained by the bees in the making of it, and this, I believe, is what brings on the trouble; besides, bees do not make chyme for the general use of the colony, but for rearing brood. I do not know that there is any difference in the disease, whether caused by eating pollen for the want of something better, or by making of chyme for brood-rearing; however, I think that the latter requires our most earnest consideration, because in the first, it matters not whether bees starve or die with diarrhea, except that when they die of this disease they leave the hive in a filthy condition.

I believe that the pollen theory has come to stay, and that those who say that it must go, have something to learn yet, as well as the rest of us. If they would consider that there are so many different kinds of pollen, and also that there must be many stages of preservation and decomposition, they would begin to see that we had only begun to handle the subject, instead of getting rid of it as easily, apparently, as one would thirst, by taking a drink of water. In my opinion it is not so easily dealt with. I do not believe that confinement will cause the disease, but it will aggravate it as well as will cold. If you turn to page 377 of the BEE JOURNAL for 1884, it will be seen that my bees were confined for 174 days (the longest confinement, I think, ever reported), and they came through with no sign of the disease; but I believe there was little or no breeding in all that time, as the small amount of food consumed, and other observations noted at the time, would indicate.

The above-mentioned differences in the condition of pollen, as well as the difference there may be in the condition of the bees themselves, I think will account for so many disagreeing on the subject. In conclusion I would say that I do not wish to attack any particular article or person, for it is the truth that I am after, and if I can help to get it, I shall be satisfied.

Manistee, Mich.

* * *

Local Convention Directory.

1885. *Time and place of Meeting.*

Apr. 1.—N. E. Kentucky, at Walton, Ky.
G. W. Cree, Sec., Covington, Ky.

Apr. 3.—N. Ind. and S. Mich., at Goshen, Ind.
F. L. Putt, Sec., Goshen, Ind.

Apr. 3.—N. E. Kansas, at Hiawatha, Kans.
L. C. Clark, Sec., Granada, Kans.

Apr. 8.—N. W. Indiana, at Laporte, Ind.
A. Fahnestock, Sec., Laporte, Ind.

Apr. 11.—Wabash County, at Wabash, Ind.
Henry Cripe, Sec., N. Manchester, Ind.

Apr. 23.—Union Ky., at Eminence, Ky.
G. W. Demaree, Sec., Christiansburg, Ky.

Apr. 23, 24.—Western, at Independence, Mo.
C. M. Crandall, Sec., Independence, Mo.

Apr. 25.—Union, at Earlham, Iowa.
M. E. Darby, Sec., Dexter, Iowa.

Apr. 28.—DesMoines County, at Burlington, Iowa.
Jno. Nau, Sec., Middleton, Iowa.

May 4.—Linwood, Wis., at Rock Elm Centre, Wis.
B. Thomson, Sec., Waverly, Wis.

May 7.—Progressive, at Bushnell, Ills.
J. G. Norton, Sec., Macomb, Ills.

May 19.—N. W. Ills., and S. W. Wis., at Davis, Ills.
Jonathan Stewart, Sec., Rock City, Ill.

May 28.—N. Mich. Picnic, near McBride, Mich.
F. A. Palmer, Sec., McBride, Mich.

June 19.—Willamette Valley, at La Fayette, Oreg.
E. J. Hadley, Sec.

Dec. 8—10.—Michigan State, at Detroit, Mich.
H. D. Cutting, Sec., Clinton, Mich.

SELECTIONS FROM OUR LETTER BOX

No Trouble in Wintering.—J. W. Eckman, Richmond,○⟍Tex., on March 8, 1885, writes thus:

My bees commenced carrying in pollen on Jan. 29, but we had so much cold and wet weather in February, that they did little towards breeding up. Since March 1, they have been doing finely. I had drones flying on March 1. We have no trouble down here in wintering bees; but our greatest trouble is, how to manage them successfully in the summer so as to keep down excessive swarming.

Never Wintered Better.—A. A. Pierce, Westport,♂ N. Y., on March 13, 1885, writes:

I am wintering 60 colonies of black bees all in the cellar, and they seem to be wintering well. All are alive and quiet, the mercury in the cellar ranging from 40° to 45° above zero. The weather here has been extremely cold since Feb. 1, the mercury ranging, on several occasions, from 10° to 36° below zero. I have kept bees for the last ten years, usually having from 40 to 80 colonies, and I have never known them to winter better than they have so far this winter.

Great Loss of Bees.—H. Clark, Palmyra,♀ Iowa, on March 13, 1885, writes as follows:

The snow is mostly gone, and white clover looks beautiful and green. There are but few of the little bees left, this winter's mortality among them far exceeding that of 1880-81. I have lately asked 10 bee-men in this neighborhood how their bees are, and the best answers I got were, 4 colonies left out of 12, and 7 from 90; my own report is, 20 put into the cellar, and 1 left; 40 packed in straw and hay, and 6 left. The cause seems to be diarrhea.

Bees in Splendid Condition.—A. J. Hatfield, South Bend,♂ Ind., on Mar. 14, 1885, writes:

Bees are in splendid condition in the cellar. I have 195 colonies. I am moving my apiary from New Carlisle, Ind.. to near this place.

Still Cold and Bees Uneasy.—W. J. Davis, Youngsville,⊸ Pa., on March 16, 1885, writes thus:

The weather in this locality is still cold, and the ground is frozen 4 feet deep, and covered with from 3 to 4 inches of snow and ice. Bees have not had a flight in 4 months. The 100 colonies which I placed in the cellar on Nov. 15, 1884, are not only quiet, but to all appearances with bodies as attenuate as they were 4 months ago; but the 100 colonies placed in my wintering house from Nov. 6 to the 20, are getting uneasy, their bodies are becoming distended, and one colony shows signs of diarrhea. Their great need now is a cleansing flight, and there is but little prospect of it in the near future. But notwithstanding the wintry prospect, and snow and ice everywhere, the first robin put in an appearance yesterday. Where not properly cared for, the loss of bees will, no doubt, be heavy.

Good Weather Needed.—Jno. A. Buchanan, Holiday's Cove,♂ W. Va., on March 13, 1885, writes:

Winter still continues. On two or three nights lately the thermometer indicated as low as 8° above zero. Bees need good weather, and they need it badly. The first few days of this month were tolerably fair for opening hives, and I overhauled my home apiary of 65 colonies. All were in reasonably fair condition save 5 colonies, which were found queenless. The bees were pretty restless for a flight when the opportunity came, as honey-dew, in some degree, constituted their stores. Young bees are now hatching quite as fast as the old ones disappear. We think that we are "out of the woods" now, but we might feel better if more moderate weather would come to stay. Generally speaking, the losses in this part of the country are heavy.

Bees Storing Honey.—8—W. S. Cauthen, (79—79), Pleasant Hill,♂ S. C., on March 11, 1885, says:

We have had a long, cold winter, but it is warm at last, and the bees are storing honey lively. Maples and tag-alder are just in full bloom, but generally they bloom in January.

Bees Swarming, etc.—Harry G. Burnet, Alva,♀ Fla., on March 3, 1885, writes:

I wonder what our frozen-up northern fellow bee-keepers will think when I say that we are busy here hiving swarms, extracting honey, rearing queens, etc. Quite a contrast to the state of affairs in the North. A fellow bee-keeper at the North, writes me that "it seems strange to hear of 'bees swarming;' about here they are feezing to death—the coldest winter on record." I know by bitter experience how it is to have bees "frozen to death," for 14 years among Iowa blizzards, indelibly impressed that on my mind; but I found a happy and pleasant solution of the difficulty in coming here. There are no winter or spring losses here, and a never-failing honey supply. No more blizzards for me.

Do Bees Ever Freeze ?—Wm. Anderson, Sherman,○+Mo., writes as follows:

I notice that some are of the opinion that a colony of bees will not freeze; but I think they will. Last fall I prepared 30 colonies for winter, 5 of them having been late swarms, and the remainder being strong colonies with plenty of stores. On Jan. 30 and 31, and Feb. 1, they had good flights, and I examined them, and found them in good condition, excepting 2 of the 5 colonies were dead, and the other 3 were short of honey. I fed them, and they are still alive. I use the "Simplicity" chaff hives, and I had 12 colonies in the "Simplicity" hives, some in the chaff hives, and the remainder in box-hives. On Feb. 16, 17, and 18 it was severely cold, and 5 of my best colonies froze, the bees being drawn up between the frames by the frost, while the other colonies were all right. With a small pair of tweezers I cleaned them all out, as some of them were down in the cells, and they had at least 20 pounds of honey. While it was 18° below zero, the coldest that we have had here this winter, the other colonies were all in good condition, and there were no signs of bee-diarrhea whatever. My hives are all on the north side of my house, and they are very much sheltered from north and west winds. Some bee-keepers in this section have lost all their bees this winter, and some of them had plenty of honey.

"Northwestern" at Detroit.—James Heddon gives his opinion on the subject as follows:

I vote "no," and President Miller says that the reasons for our preferences are in order. I give mine as follows: 1. Because the National and the Michigan State do not need us as a convention, and will receive nearly every one as an individual attendant that would go if the "Northwestern" were adjourned. 2. So far as I can learn, the "Northwestern" is much the best, and most practical and instructive body, and the consolidation proposed would be like emptying the contents of a large dish into a small one—there would be a muss. 3. Chicago is so easily and cheaply (about ⅓ rate) accessible to so many practical honey-producers who have business there other than that of attending the convention, that I think I see a loss in throwing up our appointment there next October. 4. Any series of meetings to grow and have good attendance, must be regular in their maintainance. 5. We all intend to go to Detroit, that could possibly go if the "Northwestern" were adjourned, and for one, I hope to attend both. Let us resolve to "hold fast that which is good," and go to both places.

Bees Have Starved.—L. J. Diehl, Butler,♂ Ind., on March 15, 1885 writes as follows:

This has been the hardest winter on bees for many years, and in this locality at least two-thirds of the bees are dead, the trouble having been the long continued cold which caused strong colonies to starve with plenty of honey in the hive. I have examined a great many of the hives in which the bees were dead, and 9 out of 10 had starved. Starvation with plenty of stores, but out of reach on account of continued cold, has been the cause of loss here. This will be a good year for those having bees to sell, for in nearly every case, where bee-keepers have lost all, or nearly all, they intend to buy more, if they can find out where to get them. What bees are left on the summer stands are very weak. I cannot say what my loss is, as yet, but I will report later.

Convention Notices.

☞ On account of the prevalence of small-pox in St. Joseph, Mo., the semi-annual meeting of the Western Bee-Keepers' Association, will be held at the Court House, in Independence, Mo., on April 23 and 24, 1885.
C. M. CRANDALL, *Sec.*

☞ The Northwestern Indiana Bee-Keepers' Association, will meet on Wednesday, April 8, 1885, at 10 a. m., in the Jury Room at the Court House in Laporte, Ind.
A. FAHNESTOCK, *Sec.*

☞ The Union Kentucky Bee-Keepers' Society will hold their spring meeting in Grange Hall, at Eminence, Ky., on Thursday, April 23, 1885. All are cordially invited to attend.
G. W. DEMAREE, *Sec.*

☞ The next meeting of the Union Bee-Keepers' Association of Western Iowa, will be held on April 25, 1885, at Earlham, Iowa. M. E. DARBY, *Sec.*

☞ The semi-annual meeting of the Northeastern Kentucky Bee-Keepers' Association, will be held at Odd Fellows' Hall in Walton, Ky., on April 1, 1885, at 10 a. m. A free dinner will be given by the bee-keepers of the neighborhood. G. W. CREE, *Sec.*

☞ The Progressive Bee-Keepers' Association of Western Illinois will meet in Bushnell, Ills., on Thursday, May 7, 1885. Let every bee-keeper who can, be present and enjoy the meeting. J. G. NORTON, *Sec.*

☞ The Willamette Valley Bee-Keepers' Association will hold its second meeting at La Fayette, Oregon, on the third Tuesday in June, 1885. All who are interested are invited to attend. E. J. HADLEY, *Sec.*

☞ The Northern Ind. and Southern Mich. Bee-Keepers' Association, will meet at the Court House in Goshen, Ind., on April 3, 1885. All interested in bee-keeping are invited to attend. F. L. PUTT, *Sec.*

☞ The Northeastern Kansas Bee-Keepers' Association will hold its fifth semi-annual meeting at the Court House in Hiawatha, Kans., on Apr. 3, 1885, at 10 a. m. All are invited.
L. C. CLARK, *Sec.*

☞ The Dead-Letter Office, which receives 12,000 to 15,000 or more letters every day in the year, is a monument of the carelessness of the people. That office would be speedily closed if every writer of a letter always used the "return request envelopes," giving *on* them his own or her own address or residence. This, too, would be a great satisfaction to the writers, for they would then know in due time if a letter was not delivered.

Special Notices.

☞ The stock of the Bee-Keepers' Supply Co., of New Comerstown, O., is being rapidly sold. The standing of the incorporators is vouched for by bankers and others in that city. Mr. Shoemaker desires to say that his correspondence is so large that it is some behind, but letters of inquiry will be answered, and receipts for stock subscribed will be sent as rapidly as possible. The laws of Ohio decide that there cannot be less than 5 nor more than 15 directors; and require a statement of the business sent to every stockholder once a year. The profits, or dividends, are declared by the stockholders at their annual meeting. Those who want stock in this Co. are requested to apply soon, as it is being rapidly taken. *

☞ For two subscribers for the Weekly BEE JOURNAL (or 8 for the Monthly) for one year, we will present a Pocket Dictionary, and send it by mail postpaid.

☞ Do not forget to send for a Binder in which to file your JOURNAL and thus have the full benefit of it during the whole year.

FRUIT GROWING.—We have received a copy of an illustrated pamphlet of 64 pages, entitled "How to Propagate and Grow Fruit," by Chas. A. Green, editor of the *Fruit Grower*, Rochester, N. Y. Price 50 cents. To any one sending us a new subscriber for the Weekly or 4 for the Monthly, besides his renewal for either edition, we will present a copy of this book.

Farmer's Account Book.

This valuable book contains 166 pages, is nicely printed on writing paper, ruled and bound, and the price is $3.00. We will club it and the Weekly BEE JOURNAL for a year for $4.00. If you have already sent us $2.00 for the Weekly BEE JOURNAL for a year, we will send the Book for another $2.00, making $4.00 in all. If you want it sent by mail, add 20 cents for postage.

We can supply these books at the publisher's price, or will make a **present** of one copy for every club of TEN subscribers to the Weekly BEE JOURNAL for one year, with $20. Four subscribers to the Monthly will count the same as one for the Weekly.

Now is the time to get up Clubs. Who will work for a copy of this valuable book.

CLUBBING LIST.

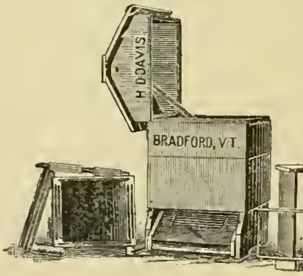
We will supply the **American Bee Journal** one year, and any of the following Books, at the prices quoted in the last column of figures. The first column gives the regular price of both. All postage prepaid.

	Price of both.	*Club*
The Weekly Bee Journal,	$2 00.	
and Cook's Manual, latest edition	3 25..	3 00
Bees and Honey (T.G.Newman) cloth	3 00..	2 75
Bees and Honey (paper covers)	2 75..	2 50
Binder for Weekly Bee Journal	2 75..	2 50
Apiary Register for 100 colonies	3 25..	3 00
Dzierzon's New Bee Book (cloth)	4 00..	3 00
Dzierzon's New Book (paper covers)	3 50..	2 75
Quinby's New Bee-Keeping.	3 50..	3 25
Langstroth's Standard Work	4 00..	3 75
Root's A B C of Bee Culture (cloth)	3 25..	3 10
Alley's Queen Rearing	3 00..	2 75
The Weekly Bee Journal one year		
and Gleanings in Bee-Culture (A.I.Root)	3 00..	2 75
Bee-Keepers' Magazine (A.J.King).	3 00..	2 75
Bee-Keepers' Guide (A.G.Hill)	2 50..	2 35
Kansas Bee-Keeper	3 00..	2 75
The Apiculturist, (Silas M. Locke)	3 00..	2 90
The 6 above-named papers	6 50..	6 00

THOMAS G. NEWMAN,
925 West Madison Street., **Chicago, Ill.**

FREE TO ALL!

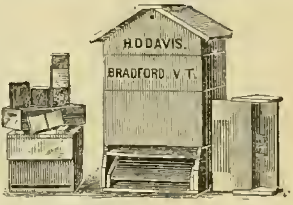
MY Illustrated Price-List for 1885, will inform you at what **low figures** you can get the very best Comb Foundation in the market; also White Poplar Sections of a superior quality and all other **APIARIAN SUPPLIES.** And as it also contains many valuable hints, I wish it to reach every bee-keeper. Send address plainly written to
JAMES B. MASON, Mechanic Falls, Me.
12A1t



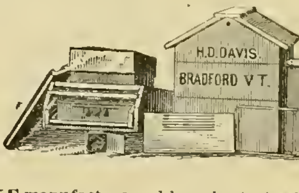
New England No. 7 Bee-Hive

We warrant it to be without an equal as a practical hive for general use.

We furnish at short notice APIARIAN SUPPLIES of every description.

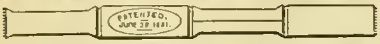

H.D DAVIS.
BRADFORD V T.

We guarantee if directions are carefully followed, that not ONE COLONY need be lost during winter with this Hive!


H.D. DAVIS.
BRADFORD V T.

WE manufacture and keep in stock white poplar SECTIONS of all sizes of the finest quality and at bottom prices. We guarantee satisfaction. Don't purchase until you send for our Circular and prices. Send 4-cent stamp for sample Sections. Circular free. Address,
HILAS D. DAVIS, Bradford, Vt.
13A1t 4B1t

"BOSS" ONE-PIECE SECTIONS.


PATENTED, JUNE 28 1881.

One-lb. (4¼x4¼) in lots of		500 to 4,000	$5.00
Ditto	Ditto	5,000 to 10,000	4.50
Ditto	Ditto	10,000 to 25,000	4.00

The one-lb. Section is 17 inches long. For any sizes between 17 and 20 inches in length, add 5 per cent. For any sizes between 20 and 24 inches, add 10 per cent. Add the above per centage to the price of one-lb. Sections in the same quantities.
We make any size or width desired.

J. FORNCROOK & CO.,
10A4t Watertown, Wis., Mar. 1, 1885.

☞ Alfred H. Newman, of Chicago, sells the one-piece Sections manufactured by us.

Vandervort Foundation Mill.

6 Inch, Price, $25.00.

It makes the finest extra thin Foundation for comb honey. For Sale by

ALFRED H. NEWMAN.
923 West Madison Street, CHICAGO, ILL.

500 Names wanted for my 18-page Illustrated Catalogue of **Bee-Keepers' Supplies** for 1885. Send for it! I can SAVE you money. HENRY CRIPE, N. Manchester, Ind.
9A4t 4B1t

80 COLONIES of Ital. Bees for sale by lb. or colony. Simp. hives, L. frames, 9⅛x17⅝. Wired Combs built from foundation combs straight as boards. Queens and Given Foundation for sale. Send for Circular. T. H. KLOER, Terre Haute, Vigo County, Ind. 10A3t

JOHN HERR & CO., Beaver Dam, Dodge Co., Wis., Manufacturers of

HIVES AND SECTIONS.

11A4t 3B2t ☞ **Price List Free.**

DOOLITTLE.—For prices of his QUEENS see page 158 of BEE JOURNAL, or send for Circular. G. M. DOOLITTLE, Borodino, N. Y.
11E15t

FOR SALE AT A BARGAIN.—15 colonies of Italian Bees, in chaff hives; 30 extra chaff and Simplicity Hives, and everything needed to run an apiary. A bargain for some one.
12A1t R. B. COMMERFORD, Sterling, Ills.

Land-Owners, Attention!

All persons who have lost Real Estate in Iowa, by reason of TAX OR JUDICIAL SALES, are invited to correspond with **BICKEL & BULL,** Attorneys at Law, 41 First Ave., **Cedar Rapids, Iowa,** and they will learn something to their advantage.

Bee-keepers' Supplies,

Standard Langstroth,

Quinby Standing-Frame,

And all other kinds of **Hives,**

MADE TO ORDER,

Quinby Smoker a specialty.

I shall supply anything you need in the Apiary. Send for Illustrated Price List.

W. E. CLARK, successor to L. C. Root,
7A13t ORISKANY, Oneida County, N. Y.

BEESWAX.

I pay **25c.** per pound delivered here, for yellow Beeswax. To avoid mistakes, the shipper's name should always be on each package.

ALFRED H. NEWMAN,
923 West Madison St., CHICAGO, ILL.

Choice Comb Foundation

I WISH to say to my numerous friends that I will use, the coming season, a new Vandervort Machine of the latest make, and will send out only the finest work; also Dunham heavy. Send for samples and Circular.

J. V. CALDWELL,
9Atf CAMBRIDGE, ILL.

SUMNER & PRIME,

Bristol, Vt.,

BEE-KEEPERS' SUPPLIES.

WE HAVE just completed our Factory, furnished it with the most improved Machinery, and are now prepared to fill all orders for **BEE-FIXTURES** of every description. **WHITE POPLAR SECTIONS** of all sizes a specialty. All orders will receive prompt attention. Send for Catalogue Price-List and samples. 10A12t

THE INVERTIBLE HIVE!

INVERTIBLE FRAMES,

Invertible Surplus Honey Cases,
Entrance Feeders, Top and Bottom Feeders,
Hive-Lifting Device, Honey Extractors,
Wax Extractors, Comb Foundation, etc.

☞ My new Illustrated Catalogue is now ready, and will be mailed to all who may apply for it. Address,

J. M. SHUCK,
DES MOINES, IOWA.
10A1y

Bee-Keepers' Supplies.

We have added to our LARGE FACTORY a SPECIAL DEPARTMENT for the

Manufacturing of Bee-Hives,

AND

White Poplar Dovetailed SECTIONS.
Also, One and Two-piece

☞ All Orders will be filled promptly at the **LOWEST FIGURES.**

Send Stamp for Catalogue and Samples.

The H. F. MOELLER M'f'g Co.
1A26t DAVENPORT, IOWA.

J. W. ECKMAN,

DEALER IN

Pure Italian Bees and Queens

For further information, send for Circular.
11A13t RICHMOND, Fort Bend Co. TEXAS.

New and Enlarged Edition

OF

BEES and HONEY,

OR THE

Management of an Apiary for Pleasure and Profit; by

THOMAS G. NEWMAN.
Editor of the Weekly Bee Journal.
925 West Madison Street, Chicago, Ill.

It contains 220 profusely illustrated pages, is "fully up with the times" in all the improvements and inventions in this rapidly developing pursuit, and presents the apiarist with everything that can aid in the successful management of the Honey-Bee, and at the same time produce the most honey in its best and most attractive condition.

PRICE—Bound in cloth, $1.00; in paper covers, 75 cents, postpaid.

☞ **A Liberal Discount to Dealers, by the Dozen or Hundred.**

☞ The Monthly BEE JOURNAL for a year and the pamphlet "Bees and Honey," will both be sent for $1.

WANTED Situation by a Practical bee keeper. Address W. B. DRESSER, Hillsdale, Mich
12A1t

NOTICE!

The following goods For Sale at a **bargain:**

100,000 2-lb. One-Piece Sections,
5¼x6x1¾.

1,000 LANGSTROTH HIVES,

in the flat; 500 one-and-one-half story Simplicity Hives, in the flat; also 500 Simplicities, nailed and painted, ready for the bees. All of the above goods are First-Class. Write for prices.

R. L. SHOEMAKER,
12Atf NEW COMERSTOWN, O.

APIARIAN SUPPLIES!!

INDUSTRIAL Summer & Winter HIVE Combination Family Crate, Honey-Board and Sectional Rack, Visitor Smoker, etc. Circulars free. **J. W. CLARK.** (box 34)
12A1t Clarksburg, Moniteau Co., Mo.

40 Hidden Name and Embossed **CARDS** and this Perfumed Satchet for 12c. Samples, 4c. CLINTON & CO., North Haven, Conn.
☞ *We have seen cards from many firms, but none as pretty as those from Clinton & Co.*
11A10t

60 New Style, Embossed Hidden Name and Chromo Visiting Cards no 2 alike, name on, 10c., 13 packs $1. Warranted best sold. Sample Book, 4c. L. JONES & CO., Nassau, N. Y.
11A1y

50 Perfumed, Embossed, hidden name &c. Cards Sample Book and 51 Scrap Pictures 10c. Globe Co., Northford, Conn. 12A4t

Dadant's Foundation Factory, wholesale and retail. See Advertisement in another column.

Muth's Honey Extractor,

Square Glass Honey Jars, Tin Buckets, Langstroth Bee-Hives, Honey-Sections, etc.

Apply to **C. F. MUTH,**
976 and 978 Central Ave., **CINCINNATI, O.**

☞ Send 10c. for Practical Hints to Bee-Keepers.

WEEKLY EDITION
OF THE
AMERICAN
ESTABLISHED IN 1861
OLDEST BEE PAPER IN AMERICA
BEE JOURNAL
PUBLISHED BY
THOMAS G. NEWMAN,
EDITOR AND PROPRIETOR,
925 WEST MADISON-STREET, CHICAGO, ILL.
Weekly, $2 a year; Monthly, 50 cents.

Vol. XXI. April 1, 1885. No. 13.

☞ For harness-galls, a horseman sends us the following recipe, and desires its insertion in the BEE JOURNAL: "For scratches in horses take white pine pitch resin, beeswax and honey, one ounce each; fresh lard, one-half pound, melt well together over a slow fire, stir quite thick, so that the parts may not settle and separate. This also makes an excellent application for harness-galls, cuts and sores of all kinds, on horses and cattle."

Blissful Ignorance.

Just as long as "those who sit in darkness" refuse the light which the experience and intelligence of the present decade has brought to the bee-keepers of the World, they will be willing dupes to all kinds of confidence operators. Feeling the force of this thought, Mr. Henry Langkamp, of Beach City, O., on March 17, 1885, wrote as follows:

The patent bee-hive man is operating on the box-hive bee-keepers in the vicinty of Dundee, Tuscarawas county, O. I do not know the name of the hive (if it has one they never mentioned it to me), and the name of the patentee I have forgotten. The hive is a one-story, single-walled, with movable end-boards, two zinc division-boards, and it has frames and four legs, and intended to stand in tin pails filled with water to keep out ants. A piece of tin about 2 inches square is tacked in the centre and above the entrance to regulate it. They said that there were 14 patents on the tin piece. The right costs $10. I trust that no one will invest. I have often asked the box-hive bee-men to come and see my apiary, and subscribe for a bee-paper, but they think that they know best. Of course it is a free country, and if they have an eye-tooth which bothers them, perhaps the best thing for them is to have it drawn.

Local Markets for Honey.

Our persistent advice to bee-keepers in every locality has been to create a local market for their crops, and we verily believe that to be the best policy. The only question has been how to do it, and upon this subject Mr. Thos. Gorsuch, of Gorsuch, Pa., on March 20, 1885, writes as follows:

I notice that great stress is placed upon creating local honey markets, by scattering the Leaflets, "Why Eat Honey?" I have been trying this plan, and find that it will greatly help to sell in a home market. If apiarists would give this subject more attention, instead of rushing the honey to city markets, it would be better for both the producer and the consumer. The Leaflets could be made to answer two purposes by making them large enough to fold around a pound section of honey; that is, if I sold a case of honey or left it on sale, if it contained 24 pounds I would furnish 24 Leaflets; and if it was thought best, the apiarist could have his name and address added to it. I am also greatly interested in the discussion of the "hibernation theory." I wonder how many of the readers of the BEE JOURNAL have tried it. I hope the number is large, and that they will report in due season, whether it is a success or failure.

It would certainly be a good plan to give a Leaflet with each package of honey sold (no matter whether it be comb or extracted), but to attempt to make the Leaflet a wrapper, would, we think, defeat the object in view by its becoming defaced and soiled. It would be better to give the Leaflet separately.

There can be no doubt about the efficacy of this method of educating the public concerning the use of honey, and we verily believe that if there were a judicious distribution of the Leaflets, entitled "Why Eat Honey?" the crop would all be sold before another crop is produced.

Another point of vital importance is the fact that more than double the price can easily be obtained in the local market (when we consider the cost of barrels, transportation, commissions, and leakage) to that price which can be obtained in quantity in the wholesale markets.

There are many methods of advertising honey for sale, which will be found to pay well. A sign at or near the residence or apiary with "Honey for Sale" in large letters, will be a valuable help. A few lines in the local paper, announcing the fact, will be valuable. Scattering "Leaflets" or "Honey as Food and Medicine," with the producers card printed on them, will sell tons of honey in almost any locality.

During the coming season let these methods be judiciously employed, and we think no more will be heard about a "glutted honey market," or honey crops unsold.

☞ Mr. G. Hillje, Schulenburg, Texas, has sent us another device for reversing frames. The frames must have flat top and bottom bars, and just alike, but no projecting ends. His device consists of a piece of tin about 1 inch long and ½ of an inch wide, having the ends rolled up into loops; this is passed through the end of the comb close to the top-bar, leaving a loop on either side. He then has a piece of wire to pass over the top-bar bent down over its sides about an inch from the end, with the two points passing through the loops and out over the end, forming the projecting rest for the frame on the hive rabbets. We do not think it as desirable a method as many others we have seen.

☞ N. L. Minor, a deaf-mute bee-keeper of Clarksville, Mo., on March 17, 1885, writes as follows:

This is a great basswood and flower region, situated on the west bank of the Mississippi river, opposite Calhoun county, Ills., and it is a good location for bees. As this place is on the south part of a hill which slants southward, there will be less dampness in the hives, especially when extreme cold weather comes. My bees were out-doors during the past winter, on the south side of a hill, and the sun shone on the hives so very warm that there was no dampness in the hives. I covered the frames with dry sawdust cushions, and I have not lost a colony. I believe that hilly country is the best shelter for bees in winter. I have neither chaff hives nor a bee-house. I had bought 15 colonies in box-hives, and the bees were affected somewhat with diarrhea, but I transferred them to movable-frame hives, and they are now in splendid condition.

☞ The second annual meeting of the Western New York and Northern Pennsylvania Bee-Keepers' Association will be held at Cuba, N. Y., on Tuesday, May 4, 1885. A very large attendance is anticipated, as the territory covered by this Association embraces many prominent bee-keepers. W. A. SHEWMAN, *Sec.*

☞ The Wabash County Bee-Keepers' Association will hold its spring meeting in the Court House at Wabash, Ind., on Saturday, April 11, 1885, commencing at 9 a. m. All who are interested in bee-culture are cordially invited to attend. H. CRIPE, *Sec.*

QUERIES

WITH

REPLIES by Prominent Apiarists.

New Phenomenon.

Query, No. 42.—I have 260 colonies of bees in winter quarters. Ninety are in one cellar and 40 in another. Both cellars have been kept too cool, the mercury going below the freezing point at times. The old cellar, which contains the 40 colonies, is very dry; the new one is very damp. The other 130 colonies are out-doors packed in different ways. Being somewhat favorably impressed with the pollen theory, I took all the bee-bread and honey away from over ½ of the colonies. I placed in the cellars and left out-of-doors those having both natural and sugar stores. Very early in the winter, I noticed a peculiar uneasiness among the bees in all the colonies in-doors and out, and both those with natural and sugar stores, all alike. This individual mortality has kept right on to a fearful extent, until now many colonies are reduced to just a handful of bees, and some of these small clusters are frozen solid. They appear to be dead. Are they hibernating? I fear I shall loose more than ½ of my colonies. A friend writes me that this curious phenomenon is also to be seen among his and his neighbor's bees. The dead bees from the sugar-fed, pollenless colonies are not distended; very few of them containing any matter, and those that do, present only a thin watery, white, sweet liquid. The dead from the colonies with natural stores, contain the ordinary darkish, fecal accumulations in greater or less degree, and some of these colonies on natural stores have the diarrhea badly, and cannot possibly survive. What I wish most to know, is, what is this new (to me) phenomenon?—Angola, Mich.

Prof. A. J. Cook says: "I give it up. Only one of the trio named above—cold—seems called upon to speak in this case. I should like to see the bees, when perhaps some reason would appear."

W. Z. Hutchinson answers thus: "I can throw no light upon this; it is evident that the bees are dying from something besides diarrhea."

G. M. Doolittle replies as follows: "From the description, I can see only one cause for the trouble, and that is the old-age theory, as advanced years ago in the Bee Journal. The bees are dying one by one of old age, in all cases where diarrhea is not present. Where this is present the bees will wear out sooner under the uneasiness caused by diarrhea, than younger bees would."

Dadant & Son answer as follows: "A cool cellar is the best place to kill bees. The bees frozen solid are dead. There are several causes which kill the bees—too much water in the syrup, bad honey, too long confinement, some disturbance in winter, etc."

Dr. G. L. Tinker says: "The attention of bee-keepers has several times been called to the fact that sugar stores are not perfectly safe for bees to winter upon, even where there is no pollen allowed. Where cold is the prime cause of the uneasiness as with the colonies here mentioned, we may have death of the colonies both with and without diarrhea. It is no 'new phenomenon' at all, but has been noted before, substantially. This query presents a clinching argument against the pollen theory that I wish to call particular attention to, viz: that restlessness may exist in a colony independent of the presence of pollen. Bees in large chaff hives contracted on 5 or 6 brood-combs are safe enough far north, on good natural stores, as they are also in single-walled hives, with side-packing of fine chaff, in this locality; but cellar wintering must be considered risky below 40° with any kind of stores."

James Heddon remarks thus: "The same evil (a new one) that appears at work in query No. 43, seems also at work here. Evidently there is no diarrhea among your bees which are deprived of nitrogenous matter. Is it going to prove that there is another, and hitherto unknown, cause for extensive mortality in winter? Is it true, that, after finding the cause of bee-diarrhea, and removing it, that such removal is to show up another heretofore unknown, or at least uncomplained-of, cause of winter mortality among bees? It is something I do not understand. I think that bees never hibernate. I hear of more cases like the above."

What Ails the Bees?

Query, No. 43.—Something ails the bees in this locality, and they are dying in great numbers. Some bee-keepers have lost all they had. I have lost 25 colonies and 15 nuclei. They were packed with chaff and straw on their summer stands, and began to die at the commencement of cold weather. Their abdomens were filled with a yellow substance, until large colonies were reduced to mere handfuls, and then all died with plenty of honey in the hives, and no signs of bee-diarrhea. The past has been a poor honey season here, and all the honey that the bees gathered was red, the larger part of it being honey-dew or bark-louse honey. In the coldest weather the bees would rush out of their hives in a pell-mell manner, fly in the air until they were chilled, and then they would fall to the ground and die. Old bee-men say that the bees have the bee-cholera. Is there any such thing as bee-cholera? I would like to have some light as to what is the matter with my bees. They have had three good flights since Dec. 15, 1884.—Carlisle, Ind.

G. M. Doolittle says: "The description shows the symptoms of bee-diarrhea, as bees have it here, although the querist says that they give no signs of it. The abdomen being filled with a yellow substance, and their rushing from the hive pell-mell, are certainly signs of diarrhea. You do not say whether or not there was any brood in the combs. Such is always present with my colonies in cases of diarrhea."

James Heddon replies thus: "I do not know the cause of the death of your colonies, but I think that some factor besides diarrhea is working against them. Fecal accumulations of nitrogenous matter, does not destroy whole colonies in winter, before such accumulations have reached that point at which the bees soil the interior of their habitation."

Dr. G. L. Tinker answers thus: "See answer to No. 19, page 116. My belief is, that well-ripened honey-dew or bark-louse honey is perfectly safe for bees to winter upon. The trouble in this case probably came from late-gathered sweets."

Messrs. Dadant & Son reply: "The cause is 'bad honey.'"

W. Z. Hutchinson says: "If there is no discharge there is certainly no diarrhea, and it is something else that ails the bees."

Prof. A. J. Cook replies thus: "I think that this is a clear case of bee-diarrhea. Poor honey, severe winter, and quite likely pollen, could all take part in the explanation. I predict that this will be a winter remarkable for its losses all through the North. I also suggest that good cellars will be at a premium next spring."

Producing Comb Honey.

Query, No. 44.—How many standard Langstroth frames should a strong colony have which is run exclusively for comb honey? After prime swarms issue, which are the best to produce comb honey, the new or the old colonies?—Easton, Pa.

H. R. Boardman says: "A hive of the capacity of 8 standard Langstroth frames I think is large enough for the production of comb honey. The prime swarm is the one to be relied on for surplus, as it contains, or should contain, the principal part of the workers."

Dr. C. C. Miller replies thus: "Eight is a good number. To the latter part of the query I would say that it depends upon the management."

Prof. A. J. Cook answers thus: "I should say eight. With the proper management, the new colony."

G. W. Demaree remarks as follows: "I think that it depends much upon the locality. In my locality 10 frames are better than a less number. If after-swarming is prevented without exhausting the parent colony, the latter excels in the way of surplus; in my apiary, at least."

W. Z. Hutchinson replies as follows: "I should have enough to furnish combs for the brood-nest, no more. I have found 8 sufficient. If the honey harvest is of short duration, after the swarm issues, the new colony will be the best for the production of honey; if the honey-flow continues for a long time, the old colony will do the most work."

G. M. Doolittle says: "I should use but 7 for the strongest colonies, and 5 or 6 for those not so strong. As to which is best for comb honey, the prime swarm or the parent colony, depends largely upon the location and the management. I have secured the best yields from the parent colony."

James Heddon replies as follows: "Where I am to keep my hive of the same capacity, all the year round, I prefer 8 standard Langstroth frames for the brood-chamber. That depends upon the size of the swarm *vs.* the size of the colony left, and more than that, upon the period and duration of the surplus honey harvest."

CORRESPONDENCE

For the American Bee Journal.

Some Interesting Experiments.

16—G. M. DOOLITTLE, (40—80).

On page 743 of the BEE JOURNAL for 1884, I described how I had prepared my bees for winter, by a thorough examination of all the colonies, the condition of which was noted upon a piece of a honey-section. On this piece was given the quantity of honey in the hive, the amount of sugar syrup fed, and a careful statement regarding the pollen which the combs contained. This piece was now tacked to the covering, or quilt over the bees, and left for future reference, so that by lifting the cover to each hive, I can easily tell the condition of each when they went into winter quarters. As we have had for the past three months the most steady cold weather on record, I have had a very favorable opportunity to learn much never known by me regarding the wintering of bees, and the kind of food best adapted to their use.

Among the different colonies in my apiary, was one of about the average strength (not the largest, neither was it the smallest), which had a very choice queen that I had obtained by an exchange with a noted breeder of Italian bees. As this queen gave promise of being an improvement on my stock by way of crossing, I was anxious that the colony containing her should be given the best possible chance to pass the winter in safety. Accordingly about the middle of September, 1884, I took their combs from them and gave them five clean, empty combs which were thoroughly examined before placing them in the hive, and as far as the unaided eye could see, they were free from either honey or pollen. At night I commenced to feed them syrup made from granulated sugar and water, feeding about 2½ pounds each night for 10 nights; all of which was noted down on the piece of section. About Oct. 25, when tucking them up in their chaff hive and cushions, I looked the combs over to see if there was any brood or pollen in this hive, but found none. My reason for looking at them at this time, was, that a part of my colonies had gathered pollen during the latter part of October, and reared brood quite plentifully, as I wrote on page 5.

After the last of October, none of the colonies were again disturbed till I began trying my experiments to ascertain the temperature of the inside of a colony of bees in cold weather. At about this time I peeped into this colony having the choice queen, and to my surprise found them quite uneasy. Extremely cold weather with much snow and high winds prevented my looking at them again until about the middle of February, when I found that they had become so reduced in numbers that there were only bees in two spaces between the combs, while the sight and odor of disease proved to me that I had in this colony (having only granulated sugar syrup for stores) a case of the worst kind of bee-diarrhea.

Knowing that I must lose the colony, I thought to test the temperature, so I immediately placed a self-registering thermometer in their midst; the next morning, while the mercury outside stood at zero, I found that even so few bees as above stated (less than one quart), had kept the temperature at 70° and above for nearly 24 hours. The colony ceased to exist on Feb. 24, at 3 p. m., by my taking about 200 wretched looking, daubed bees, with the queen, into my shop, where I caged the queen, after which I shook the bees on the snow in the zero air, and placed the queen over another colony of bees.

An examination of the combs showed brood in one comb covering a space about the size of a silver dollar, which brood had been kept by the bees some days previous on account of the cluster getting so small that it was obliged to move higher on the combs to get food. On either side of this brood, in the opposite comb, the cells were partially filled with a whitish substance resembling the chyme fed to larval bees, in a somewhat dried state. There was also about 200 young, fuzzy bees among the dead bees at the bottom of the hive. As far as pollen was concerned, I could detect none—not any more than I could last fall. I now fell to reasoning: What of the pollen theory? If bees died with diarrhea with absolutely nothing for food but sugar syrup, why should Mr. Heddon lay the cause of the disease to pollen? Thus I had unintentionally proven that bees did have the diarrhea with no pollen or honey present; while heretofore we had been told that bees did not even spot the snow on their first flight, when wintered on sugar. Again, what of the "no pollen, no brood" theory? I had just said in "Queries and Replies," that I believed where the bees had only stores of sugar, no brood would be reared; while Prof. Cook and Mr. A. I. Root have been positive for years that brood could only be reared when the bees had access to pollen.

Just at this time it entered my head that Prof. Cook had been reported, on page 7, as saying at the Michigan Convention, "It is folly to say that mature bees do not eat pollen unless they are breeding. I have dissected bee after bee at a time when no brood-rearing was going on, and found their intestines loaded with grains of pollen;" and how I had wondered, when reading it, if he had searched for pollen in the intestines of bees which had no pollen in their hives during a time of year when no brood-rearing was going on, and found no pollen then. If he had done so, then he had positive evidence that my belief, founded on experiments, that old bees do not eat pollen, only in the shape of chyme, was a mistake or "foolishness." But if pollen could be found in the intestines of bees which were confined to stores of honey or sugar only, then it proved that bees might carry pollen in their intestines when none was present in the hive, and had not been for some weeks previous.

As I was anxious to gain all the knowledge I could on this as well as other points, I at once gathered up 8 or 10 bees from the snow before they had ceased to exist, and sent them by the next mail to Prof. Cook, requesting him to tell me what he found in their intestines. Here is his reply, dated Feb. 27, 1885: "I have found almost no pollen in the fæces, and yet the characteristic odor of serious diarrhea. I find hosts of bacteria, and a great many oval bodies which look like blood corpuscles in the higher animals. I do not know what these latter are; they may be spores. I have given some to Dr. Beal, who will try, by cultivation, to find out the precise nature of these oval bodies. . . . I will tell you of any farther results of investigation." He again wrote me as follows on March 3: "Two of the bees had an abundance of pollen. The others seemed to have none. Dr. Beal thinks that the abundant oval bodies are spores of some fungus. Perhaps bees collect spores as well as pollen. They may not be spores. I shall examine the matter fully."

As soon as I received the last communication, I thought that I would send him more bees, and also some of the comb which I spoke of as having the whitish substance in the cells opposite the brood, asking him to make a thorough examination of both. He replied on March 10 as follows: "I find that the white substance at the bottom of the cells is the web or cocoon of once larval bees. To this I find pollen grains attached. I find a little pollen at the bottom of the cells, which, to the unaided eye, seem entirely empty; also some under the honey on the side of the comb which you cut off. I find pollen, which the microscope reveals, in almost every cell. The bees differ much. Some have no pollen, others considerable. The oval bodies of which I wrote, are undoubtedly blood-discs; I find them in my bees which have wintered remarkably well. Your bees which are the fullest, or the most turgid—are bloated like—have pollen in almost every case. The smaller ones seem to be without pollen, yet in these latter the odor of the disease seems present."

From the above I feel that I know less regarding the wintering of bees than I ever did before; in fact I feel that when we know all there is to be learned in this matter, we shall see how erroneous the many views of the past have been. Four things, however, are clearly brought to light, viz: 1. Pollen can be found in combs by the use of the microscope, which the unaided eye knows nothing of. 2. Pollen can be found in the intestines of the bee which has been confined to a diet for several months, which all ordinary apiarists would suppose contained no pollen. 3. Brood can be reared to a certain extent where the stores are only sugar syrup, as far as the unaided eye can see. 4. Bees can perish with bee-diarrhea in its worst form, with practically only sugar syrup for stores. The above four reasons annihilate the pollen theory as far as it could be made practical to bee keepers generally.

In conclusion I wish to thank Prof. Cook for helping us to know some things that myself and others could only guess at were it not for his scientific skill. I wish also to say that he knew nothing regarding the manner in which the bees were prepared for winter, hence, he gave his unbiased judgment.

Borodino,⊙ N. Y.

For the American Bee Journal.

Apicultural Imposition.

A. P. FLETCHER.

Seeing Mr. W. F. Clarke's article on page 103, I wish to call attention to another of the same kind, by Mrs. Lizzie E. Cotton. On page 67 of her book, first edition, "Bee-Keeping for Profit," she says :

"Very early in the spring I selected the most populous colony in my possession. It was ruled by a young and exceedingly prolific hybrid queen, a mixture of Italian and native blood. I commenced early in the spring to feed this colony lightly, but *regularly* every day at evening. I fed about ½ pound of feed per day, until a few days before the flowers were in bloom profusely. This was done to encourage breeding. Very early in the spring they were fed corn and rye meal.

"For a few days before the flowers were blooming profusely, I fed liberally—in fact, giving them all I could possible induce them to take up, the object being to get the stored comb in the body of the hive, not occupied with brood, completely filled with honey. The glass boxes, 26 in number (with feeder), each holding about 4½ pounds of honey, were arranged in connection with the hive (sides and top) several weeks prior to the appearance of the flowers, that the bees might become accustomed to them, and the more readily enter them and commence work. When I ceased feeding (which was on the appearance of the flowers yielding a good supply of honey), the boxes were filled with bees, and comb-building had commenced. The hive, at this time, was filled to overflowing with bees, and the combs had brood in all stages of growth, from the egg to the perfect bee. I had taken the precaution to cut out nearly all the drone-comb, and fit in its place worker-comb, so I had but very few drones to consume the honey. I had also arranged so as to have no increase by swarming, but have all my bees employed storing surplus honey in the boxes, throughout the season.

"As fast as the boxes were filled, they were removed, and empty ones were substituted in their places. I never saw bees work with such determined industry, early and late, and in all kinds of weather. When honey failed at the end of the season, there was a set of boxes on the hive partially filled ; I immediately gave the bees feed until these, too, were finished. I found, on weighing the product of this colony in the fall, that they had given me a fraction over 380 pounds of surplus honey in boxes. This honey I sold at 35 cents per pound—a little over $133 for surplus honey sold from this one colony. Reader, go thou and do likewise."

Is not the above a parallel case to Mr. Clarke's "Apicultural Humbug and Fraud?" Of course it is needless to prolong this article on this line. We have all known Mrs. C. by reputation, for several years. Humbugs, swindles and frauds are old people now, and we shall have to let them die a natural death.

Frelighsburg, Quebec.

For the American Bee Journal.

How My Bees Have Wintered.

I. J. GLASS.

I asserted in my letter on page 27, that I would report my success in wintering, and the manner in which my bees were prepared for winter. I do not wish it understood that I am presuming winter to be over, although the nice, pleasant weather, with the birds singing so merrily, I will have to acknowledge that it makes me feel that spring is almost here, and I cannot see anything premature in venturing to predict a little. In putting my bees into winter quarters, I used no new plans ; I simply put them into a warm, dry cellar, with the caps of the hives removed, and the quilts glued on just as the bees had waxed them tight during the summer, only where I found the cloth torn asunder I sealed it tightly with a hot iron. Now, mark a big mistake here. The quilts which I use are heavy bed-ticking, and with a thick coating of propolis they are almost impervious to moisture, and the result is moldy combs ; although a quart measure would hold all the bees that have died from 32 colonies, after a confinement of 106 days. The other requisites of my cellar, are simply 2 windows, blinded with curtains, with which I sometimes used to ventilate the cellar, although for six weeks they were closed tightly, and I had to resort to artificial heat to retain the temperature above 40°. The lack of ventilation may have caused a greater amount of moisture in the hives, therefore causing the combs to mold so badly.

I presume that some are wondering if my bees had any symptoms of diarrhea. I would say that 7 colonies are affected—2 or 3 badly, and furthermore those colonies are some late, weak swarms whose stores were cane sugar, and plenty of pollen also, as I find by examination.

Now comes the most interesting part of my experience, at least it is with me. As those colonies related to above are diseased, I carried 5 of them out last Saturday for a flight, and upon inspection, found brood in all stages. The bees flew about and seemed elated at being set at liberty after their long confinement. Here mark another mistake. I thought that it would be an excellent plan to pull the wet, moldy cloth back and let the sun's rays shine directly upon the combs and dry them out. But, what do you think? Two of these nice little colonies that I was feeling quite proud of, left their "bed and board" and united with two others, and labored industriously during the entire day, transporting what they could of their deserted stores. Did my bees act unusual? I do not think I will put any more out until I put them on the summer stands to stay.

I have made diligent inquiry among my neighbors who have bees, and wintered without any protection, and the loss is dreadful. In three instances they have lost their entire apiaries. I think that the loss will estimate nearly 75 per cent., judging from the frightful mortality of bees in this neighborhood. I think that the cellar is a good place to winter bees, but they need more ventilation than I was able to give, owing to the extreme cold weather; and in the future I will use a more porous quilt to absorb the moisture.

Sharpsburg,⊙ Ills.

For the American Bee Journal.

Marshall County, Iowa, Convention.

The Marshall County Bee-Keepers' Association met at Marshalltown, Iowa, on Feb. 21, 1885. The President and Vice-President being absent, Mr. O. B. Barrows was called to the chair. The minutes of the previous meeting were read and approved.

The subject, "Spring care of bees," was then discussed.

Mr. L. Colper said that he puts his bees out when it is warm enough in the spring. He then raises the quilts, cleans out the hives well, closes the entrances so only one bee can pass at once, makes all warm so as to promote breeding, and if necessary, puts out flour for feed as soon as brood begins to appear, using a mixture of equal parts of rye, oats and corn ground fine. The bees seem to like it. His 24 colonies had used a bushel of it a day. To keep them strong he unites two weak colonies.

Mr. Dewy puts out his bees when warm enough, and fronts the hives toward the east or south. He had a hive on exhibition, but the majority thought it too complicated and expensive for modern bee-keeping.

Mr. Cover generally puts out his bees about April 1, placing them on the summer stands without any regard to the positions they occupied when put in in the fall, and he never has had any bad results from it by colonies fighting. He uses rye and oat-flour for pollen as long as they will work on it ; and also sometimes uses comb honey. He does not close the entrances to the hives when carrying them to the summer stands. He puts a few pieces of comb honey on the pollen trays to entice the bees to them first, and he places on the surplus arrangements early in the season.

Mr. Keeler thought that it was well to feed all colonies to stimulate early breeding. He finds it best to put all hives where they stood during the previous summer, contract the entrances and leave the winter quilts on until late. He believes that the division-board is a good thing with which to contract the size of the hive.

The Secretary made a few remarks, showing the advantage of the division-board in contracting the size of the hive to suit the size of the colony, and the great advantage in aiding the weak colonies, by taking a frame of brood here and there from strong colonies and giving to the ones in need of aid, and supplying the ones where taken from, with empty combs. He places empty combs in the centre of the brood-chambers of all the colonies as they need them, until the division-board is ready to be taken out and the hive is full of brood and bees. He generally feeds some to encourage breeding, so as to have all colonies ready for the white clover harvest.

The subject of "sections" was next discussed.

Mr. Keeler stated that the one-pound sections sell better than the larger sizes. He favors the use of separators.

Mr. Moore likes the California or triangular top-bar section the best. He has tried the others with separators, and did not get as good yield in them as from the first mentioned.

Mr. Cover had used five-pound boxes in the past, but he intended to try sections during the coming season.

Many other things were said on the subject of supplies, and some remarks were made on the subject of adulteration and frauds. The subjects for discussion at the next meeting are: "Spring and summer management of bees," and "Care and marketing of honey." As those who were to read essays were absent, they are expected to read them at the next meeting. The Association then adjourned to meet at Marshalltown, on Saturday, April 18, 1885, at 10:30 a. m.

J. W. SANDERS, *Sec.*

For the American Bee Journal.

Passage-Ways and Bee-Spaces.

JOHN HEWITT.

On page 789 of the BEE JOURNAL for 1884, Mr. Heddon asks Dr. Tinker to give the reason "why bees violate the old rule laid down by Father Langstroth, that bees glue up all spaces too small for them to pass through." I do not think either Dr. Tinker, Mr. Pond, or any one else can answer this query until some one can, perhaps, give the true reason "why water always runs down hill;" but I will just give a few facts to think about.

A very long time ago, before I ever had heard a word of the movable-frame hive, Langstroth, or any other prominent modern bee man, and after thoroughly digesting the works of Huber, Nutt, and a few others, I designed and constructed a bar-frame hive, the frames filling the hive from end to end, less ⅛ of an inch, this space being left to give "play" in drawing out the frames; but before I put my bees into it, I saw a new bee-book advertised as just published by a prominent authority. I sent for a copy and eagerly read it. This book explained quite clearly (?) the necessity of a "bee-space" around everything in the hive. From advertisements in this book, I obtained a bee-paper, and I then heard of other authors, all of whom laid down the law as to the necessity of a "bee-space." I then bought a number of bar-frame hives, and made others myself, and I found if I pushed the frame-ends close to one side of the hive, they were glued fast, and comb built in the double bee-space at the other ends.

But a time came when I wanted one more hive than I had, and the alternative presented itself of either putting the swarm in a straw skep, or into the hive I had constructed during my benighted days. I thought that at least it would be better than a skep, as I could drive the bees out, and by passing a thin knife down by the ends of the frames, they could be easily removed, the honey extracted, and the frames returned, if I chose to do so. So I put the bees into it, but to my surprise they did not glue the frames fast, and never have done so yet, and they have always been as easy to remain and replace as those with the bee-spaces; they never crushed as many bees, as the bottoms of the frame-ends scraped them out of the way when returning a comb, if any bees were on the hive walls.

I was so puzzled with this hive, that I began to study and experiment with it, changing the queens (blacks, Syrians, etc.) to see if another variety of bees would act differently. At last I decided to make a number having only ⅛-inch play, and I made a dozen, adapting in each the peculiarity which I thought induced the bees not to propolize; each of these were "Long Idea" hives, with frames crosswise to the entrance, with a tight fitting division-board to be kept close up to the frames, and which allows them to be reduced or increased at will, and used for extracting until the heather harvest, when they are worked for comb honey—it being impossible to extract this kind of honey; and though these hives have contained colonies of Syrians and Syrian-hybrids as well as blacks, I have yet to see the first frame stuck fast, or sufficiently so as to enrage such bees as the Syrians.

Last summer developed a new feature. I had always previously found bees to propolize the quilts fast to the frames, but now with a new design in quilts, there never was so much as a speck of it to be seen—the quilts are quite porous too, as may be proved by placing a tin vessel of cold water on them, when the vapor from the bees will be condensed under its bottom; if I removed the quilts and gave them such as I had previously used, the first sheet (calico to both kinds) would be one mass of propolis, where the bees could get to it.

If am asked to explain the reason, I must answer that I cannot yet,—I must study the matter more before I attempt to give reasons—perhaps propolis is really porous, though draught proof; anyhow I shall go on studying and experimenting.

Sheffield, England.

For the American Bee Journal.

Sections and Section-Cases.

A. D. STOCKING, (65—80).

Much has been written about sections, section cases, and section-racks, and it appears that there has been nothing made that was satisfactory to all parties, various objections having been raised against all styles, and probably the question will never be settled so that one size and style will be used by all. I have experimented considerably, and I have not yet found anything in this line exactly to my liking.

As to sections: The one-piece section comes the nearest to my idea of a section, and if they could be made of harder wood than basswood, I would ask for nothing better. My reasons for liking them better than all others are, they are more quickly and more easily put together, and they are more substantial and less liable to be knocked out of shape in handling after being made up and allowed to become dry. I always use a little glue on the open joint, when putting them together, and I have never had any to pull apart when thus treated with good glue. I have never seen any dovetailed sections that were as solid and that kept their form as well while being handled, after being made up awhile and becoming dry, as the one-piece section; and I have had them from all the best factories. All the advantage that I can see in them is that they can be made of harder wood, and can be made to look cleaner.

As to section racks and cases: I have tried and discarded many forms, and I have studied and experimented to overcome the annoyance caused by the bees building bits of comb between the tops of the brood-frames and the bottoms of the section racks and cases.

For 3 years I have made my racks and cases on the same principle as the Heddon-case. Supporting the sections on strips of tin nailed to the under sides of the cases, and placing them on the hives with a ¼-inch bee-space between the bottoms of the sections and the brood-frames. I am now troubled but little with bits of comb, and the bottoms of my sections are as clean as the tops. I have found that the nearer I place the sections to the brood-frames, the better the bees will work in the sections, and the less I am troubled with bits of comb.

Last season I made my hives for taking comb honey in three sections. I rabbeted the edges so as to bring the insides all even the whole heighth, so that the parts would be interchangeable. The surplus arrangements are made on the same plan as the Heddon case, and the sections are handled in the same manner. I have a ¼-inch bee-space between each tier of sections, and the same bee-space between the lower sections and the brood-frames. I can tier the sections up as high as I wish, and when the sections are not needed on the hive, they are removed and the cover placed directly on the body of the hive. This arrangement of the hive is the most convenient and most easily handled of any that I have ever seen or used. I have entirely discarded separators, as I do not wish to be bothered with them, for with my present arrangement, and the use of narrow sections and foundation, I can crate 95 per cent. of the combs.

Ligonier, ♂ Ind.

For the American Bee Journal.

Another Cure for Foul Brood.

WM. F. KANZLER.

I consider it my duty to give to my fellow bee-keepers, whose apiaries contain colonies of bees afflicted with that dread disease, foul brood, the following cure which I found in the *Bienenzeitung* for Feb. 1, 1885:

In 1880, a bee-keeper by the name of Mr. Klempin, cured with the smoke of thyme, 2 colonies which were strongly infected with the foul brood. In 1883, 8 of his colonies became infected by robbing his neighbor's bees which had the foul brood; the affected colonies in both apiaries were smoked with thyme, and in the fall all colonies were cured, except one which was destroyed by fire, as it was totally rotten. In 1884 he watched his bees until June, and after finding no foul brood, he paid no more attention to them, but in July he found 2 colonies infected, one considerably, and he again used the smoke of thyme, and after 10 days the larvæ were dried by the smoke and carried out by the bees, all cells were cleaned, and the colony saved. Also two large infected apiaries in the neighborhood were cured by the same remedy.

It was done in this way: He took a piece of paper and made a lunt of thyme as thick as a thumb and 4 inches long, then he ignited it at one end and put it into a smoker; in the evening, after the bees quit flying, he held his smoker in the hive-entrance and gave the infected colony 20 or 30 puffs of smoke. He continued this every evening during the first two weeks; after that time, 3 times a week; and if he found, after 3 or 4 weeks, that the cells were clean and the brood healthy, he applied the smoke only once or twice a week.

Thyme is our common garden herb, used for seasoning several dishes; 5 cents will procure a paper of seed. It is time to sow it now, and it is to be pulled when in bloom, and dried in the shade.

I consider myself very fortunate, for in the long course of my keeping bees—over 60 years—I have made no acquaintance with this dreadful disease in my own apiary; but notwithstanding, I will raise some thyme in my garden this year for any case of emergency. Years ago, the true cause of foul brood was discovered to be a very small fungus, and the remedies for killing it are, salicylic acid, phenol and thymol; the last-named is contained in our common thyme, and is the cheapest of all.

Fulda, ♀ Ind.

For the American Bee Journal.

Market Quotations for Honey.

C. C. MILLER, (200—299).

United action on the part of bee-keepers in settling upon the price at which they can afford to sell honey may be one of the things to be accomplished in the future, but it is quite likely that the ordinary laws of supply and demand will control the matter the same as they control the prices of wheat and corn. Although I have little faith in any extraordinary concert of action as to the price of honey amongst producers, I have faith in the same kind of concert of action as takes place among farmers with reference to the prices of wheat and corn.

There seems to be a somewhat rapid progress toward the settling of honey into its proper place as a staple article, which progress will be hastened by concert of action among bee-keepers. Not by a meeting and settling in convention the price at which honey can be afforded, and a resolution that no one shall sell below that price, but by the general diffusion of knowledge as to the condition of the market with reference to supply and demand, the amount of honey in the country, and all the items that might influence the price. For this diffusion of knowledge we must look almost entirely to the press, and especially to those publications which make a specialty of bee culture. Through these we are to learn whether the crop is light or heavy, and this knowledge alone is of great value even to those who depend entirely upon their home market.

If I know that there is a general failure of the crop, whether my own harvest is light or heavy, I am safe in asking a good price for my honey at home, without fear that the local dealers will send to Chicago or New York and bring in honey to undersell me. Especially do I need to be informed about the markets if I produce largely and ship to one of the larger cities. If I could sell outright my crop of honey at one transaction, to a cash buyer, that would suit me the best, but if I can get a better price for it by sending it to a commission house, I should so send it, even if it must be sent in several lots, and it is of some consequence to be informed from time to time as to the state of the market, that I may know whether it is best to crowd my crop in or hold back for an emptied market or a higher price.

We need light on every point bearing upon the subject, and it is the province of the bee-papers to give us that light. If the price demanded by commission men upon the same grade of honey varies 3 cents per pound, then can they not tell us what that price is, with the variation of 3 cents? At any rate, can they not give us what information is to be had on the subject? It is not the price that commission men demand that should be reported, for they, in some cases, demand according to instructions from consignees, a much higher price than they can obtain; but the thing wanted is the price at which they are making sales. If the objection is made that they vary in prices, that objection holds with greater force against buyers' quotations, for last year there was a variation of more than 3 cents in the offers I had on the same grade of honey from three different Chicago buyers.

This full information as to what buyers are giving, what commission men are selling at, the present quantity on the market, the prospect for the future, etc.—this it is that will help to make honey as staple as wheat and corn.

Marengo, ♂ Ills.

For the American Bee Journal.

Foul Brood or What?

A. B. MASON.

The expression on page 140, in Query No. 30, "I could find a few cells with brown mucus," may indicate foul brood. The remainder of the description would indicate some other trouble, and it may not. At any rate, it does not describe foul brood as I have seen it in some portions of this State and Michigan.

Last season a bee-keeper in Michigan sent me a piece of comb inquiring if it contained foul brood. It was obtained from one of his neighbors several miles away, and was very badly affected with the disease. Later in the season he had some trouble in his own apiary, and fearing that it was foul brood, he wrote me, giving a description of the trouble. I assured him that it was not foul brood, but I neglected to say what I thought was the trouble. In September he sent me a full-sized Langstroth comb just as it was taken from the hive, bees and all, wishing to know if it was foul-broody. Owing to its accompanying live bees, and being busy and from home several days, it was not examined for some time, and a nicer, cleaner comb I never saw. I believe some one told him that the trouble in his apiary was foul brood, and he put his bees through the starving process, melted the combs, and purified his apiary, hoping to thus get rid of the trouble.

Since the publication of Mr. Webster's article on page 58, he has written me that Mr. Webster gives a description of his trouble. In reply, I told him how I used to be tormented until I commenced keeping Italian bees. Now, when the querist says, "I could invariably find that all the dead brood had a deposit sticking to them, especially on the legs, resembling rust," and so on to the next period, leaving out the words, "very little brown mucus to be seen," he gives an exact description of my experience. I found the trouble to be a very small worm (moth-larva) working under the brood in the centre of the comb; so small as not to be seen, unless in motion, even when closely looked for. I would rather have a dozen of the fully developed moth-larvæ over the *heads* of the brood where we "know them by their fruits," and can readily remove them, than to have the small rascals cutting up in the rear of the brood where it is very difficult to find them.

Wagon Works, Ohio.

For the American Bee Journal.

Cedar Valley, Iowa, Convention.

The Cedar Vally Bee-Keepers' Association met at Cedar Falls, Iowa, on Feb. 24 and 25, 1885. After calling the roll, Mr. C. P. Hunt was appointed Treasurer *pro tem*, and the convention immediately proceeded to the discussion of questions.

"What is the best size of section to gain the most profit?" Messrs. E. Stark, D. W. Thayer and A. D. Bennett favored the 1½-pound section, as it required less material and less handling; Messrs. Seevers, Ralston, A. J. Norris and L. L. Triem thought that the one-pound section was the best.

"Is there anything better than a rack for holding sections?" It was thought that a section-case was the best for one-pound sections, and a rack for the 1½-pound sections worked on the "tiering-up" system.

"What is the best material to use in smokers?" Mr. E. Stark uses burlap; Mr. A. J. Norris uses felt paper; and Mr. A. D. Bennett thought that butternut bark was the best.

"When is the best time to put on a full set of sections in the spring?" Mr. A. J. Norris thinks that it is not best to put on any until after the bees have swarmed. It was generally thought best to put on a few at a time when the bees begin to build new comb.

Adjourned to meet at 8 p. m.

At 8 p. m. the convention assembled and continued the discussion of questions as follows:

"How long after a queen-cell is sealed does it take it to hatch?" It was thought that the average time required was nine days. Messrs. A. J Norris and O. O. Poppleton had marked queen-cells which were not sealed and those that were sealed, and the former hatched first.

"Which is the better method of obtaining increase, by dividing colonies or by natural swarming?" Mr. C. P. Hunt had divided his colonies with good success. He divided them when they were nearly ready to swarm. Mr. O. O. Poppleton obtains increase by forming nuclei, and then building them up with frames of brood from the strongest colonies.

It was generally thought that the Italians were better than the black bees, for all purposes; also, that the former would fly farther than the latter. Some thought that bees would go 7 miles for honey. The majority of those present considered the cellar the best place in which to winter bees in this latitude, and they would recommend Mr. Doolittle's method of uniting nuclei. The question, "Do bees hibernate?" was asked, and the reply was, "no."

Adjourned to meet at 10 a. m. on the following day.

The convention was called to order at 10 a. m. on Feb, 25, and the discussion of questions was resumed.

"What is the best method of feeding bees?" Messrs. E. Stark and O. O. Poppleton thought that combs of sealed honey was the best at any time of the year. Messrs. A. J. Norris, A. D. Bennett and John Burke considered liquid food the best for spring feeding; to be fed out-of-doors in troughs containing floats, or mixed with cappings in pans.

"Is it profitable to feed bees in the spring?" It was generally thought that spring was the best time to feed bees. Messrs. D. W. Thayer and A. J. Norris considered it best to keep bees in the cellar as long as they can be kept quiet. Mr. A. D. Bennett thought it best to put them out as soon as the weather was warm enough.

Adjourned to meet at 1 p. m.

At 1 p. m. the meeting was called to order, and the question, "Is it best to shade the hives when producing comb honey?" was asked. It was thought best to shade them during the middle of the day, but also to give them all the sun that they could stand, and yet not have the bees hang out.

Adjourned to meet at Waterloo, Iowa, sometime between Aug. 10 and 20, 1885, the President and Secretary to decide on what particular days.

A. D. Bennett, *Sec.*
C. P. Hunt, *Pres.*

Haldimand Ont., Convention.

The Haldimand Bee-Keepers' Association met at Cayuga, Ont., on Feb. 13, 1885, at 1 p. m.

The minutes of the former meeting were read and approved, and the following officers elected:

President—James Armstrong.
Secretary-Treasurer—E. C. Campbell.
Vice-Presidents—Walpole, Robt. Buckley and Jas. Williamson. Rainham, Abraham Gee. South Cayuga, G. B. Vashinder. North Cayuga, Wm. Kindree. Oneida, Hugh Stewart. Canboro, M. McCollum. Seneca, Geo. B. Stephenson. Cayuga, Rev. P. Bardou.

"How to prevent spring dwindling." The President said that his plan was to examine his colonies in the spring, take away any extra frames, give the bees plenty of stores, protect them from the cold, and let them alone until warm weather comes.

Mr. D. A. Jones, in answer to a question on feeding bees, said that it depended on the weather. Liquid food should never be given until warm weather; the proper winter food is made by mixing the best quality of sugar in honey, made as warm as possible, and putting in all the sugar that the honey will absorb.

INTRODUCING QUEENS.—Mr. Smith introduces queens towards evening, and he smokes the bees thoroughly before and after introducing the queens.

Mr. D. A. Jones described his methods of introducing and rearing queens.

After discussing several matters, and answering some questions, the meeting adjourned to meet at Nelles' Corners, on the last Friday in May, 1885, at 11 a. m.

E. C. Campbell, *Sec.*

Convention Notices.

☞ The Central Illinois Bee-Keepers' Association will meet at Jacksonville, Ills., at 10 a. m. on Saturday, May 2, 1885. Wm. Camm, *Sec.*

☞ The Spring meeting of the Cortland Union Bee-Keepers' Association will be held in Cortland, N. Y., on May 12, 1885. W. H. Beach, *Sec.*

☞ On account of the prevalence of small-pox in St. Joseph, Mo., the semi-annual meeting of the Western Bee-Keepers' Association, will be held at the Court House, in Independence, Mo., on April 23 and 24, 1885.

C. M. Crandall, *Sec.*

☞ The Northwestern Indiana Bee-Keepers' Association, will meet on Wednesday, April 8, 1885, at 10 a. m., in the Jury Room at the Court House in Laporte, Ind.

A. Fahnestock, *Sec.*

☞ The Union Kentucky Bee-Keepers' Society will hold their spring meeting in Grange Hall, at Eminence, Ky., on Thursday, April 23, 1885. All are cordially invited to attend.

G. W. Demaree, *Sec.*

☞ The next meeting of the Union Bee-Keepers' Association of Western Iowa, will be held on April 25, 1885, at Earlham, Iowa. M. E. Darby, *Sec.*

☞ The Progressive Bee-Keepers' Association of Western Illinois will meet in Bushnell, Ills., on Thursday, May 7, 1885. Let every bee-keeper who can, be present and enjoy the meeting. J. G. Norton, *Sec.*

☞ The Willamette Valley Bee-Keepers' Association will hold its second meeting at La Fayette, Oregon, on the third Tuesday in June, 1885. All who are interested are invited to attend. E. J. Hadley, *Sec.*

☞ The Northern Ind. and Southern Mich. Bee-Keepers' Association. will meet at the Court House in Goshen, Ind., on April 3, 1885. All interested in bee-keeping are invited to attend. F. L. Putt, *Sec.*

☞ The Northeastern Kansas Bee-Keepers' Association will hold its fifth semi-annual meeting at the Court House in Hiawatha, Kans., on Apr. 3, 1885, at 10 a. m. All are invited.

L. C. Clark, *Sec.*

Local Convention Directory.

1885. *Time and place of Meeting.*

Apr. 3.—N. Ind. and S. Mich., at Goshen, Ind.
F. L. Putt, Sec., Goshen, Ind.

Apr. 3.—N. E. Kansas, at Hiawatha, Kans.
L. C. Clark, Sec., Granada, Kans.

Apr. 8.—N. W. Indiana, at Laporte, Ind.
A. Fahnestock, Sec., Laporte, Ind.

Apr. 11.—Wabash County, at Wabash, Ind.
Henry Cripe, Sec., N. Manchester, Ind.

Apr. 18.—Eastern Indiana, at Richmond, Ind.
M. G. Reynolds, Sec., Williamsburg, Ind.

Apr. 23.—Union Ky., at Eminence, Ky.
G. W. Demaree, Sec., Christiansburg, Ky.

Apr. 23, 24.—Western, at Independence, Mo.
C. M. Crandall, Sec., Independence, Mo.

April 24.—Portage County, at Ravenna, O.
L. G. Reed, Sec., Kent, O.

Apr. 25.—Union, at Ear'ham, Iowa.
M. E. Darby, Sec., Dexter, Iowa.

Apr. 28.—DesMoines County, at Burlington, Iowa.
Jno. Nau, Sec., Middleton, Iowa.

May 2.—Central Illinois, at Jacksonville, Ill.
Wm. Camm, Sec., Murrayville, Ill.

May 4.—W. New York and N. Pa., at Cuba, N. Y.
W. A. Shewman, Sec., Randolph, N. Y.

May 4.—Linwood, Wis., at Rock Elm Centre, Wis.
B. Thomson, Sec., Waverly, Wis.

May 7.—Progressive, at Bushnell, Ills.
J. G. Norton, Sec., Macomb, Ills.

May 12.—Cortland Union, at Cortland, N. Y.
W. H. Beach Sec., Cortland, N. Y.

May 19.—N. W. Ills., and S. W. Wis., at Davis, Ills.
Jonathan Stewart, Sec., Rock City, Ill.

May 28.—Mahoning Valley, at Newton Falls, O.
E. W. Turner, Sec., Newton Falls, O.

May 28.—N. Mich. Picnic, near McBride, Mich.
F. A. Palmer, Sec., McBride, Mich.

June 19.—Willamette Valley, at La Fayette, Oreg.
E. J. Hadley, Sec.

Dec. 8—10.—Michigan State, at Detroit, Mich.
H. D. Cutting, Sec., Clinton, Mich.

☞ In order to have this table complete, Secretaries are requested to forward full particulars of time and place of future meetings.—Ed.

SELECTIONS FROM
OUR LETTER BOX

Taking their First Flight.—W. N. Ramsey, Glen Haven, ♀ Wis., on Mar. 16, 1885, writes thus:

Last fall I packed 121 colonies in sawdust on the summer stands, and on March 9, 1885, 116 of them were on the wing taking their first cleansing flight after the long winter confinement.

Moving Hives into and out of Cellars.—Hiram Richey, Sing Sing, ○⌐ N. Y., writes as follows:

About one year ago I sent an item for publication, which appeared on page 245 of the Bee Journal for 1884, but lest the third paragraph should be misleading, I desire to reprint it as follows: About 4 years ago, there was a discussion about taking bees out of and into cellars. One person thought that it was no trouble, as he had buildings in his bee-yard with tracks running into them, upon which he run cars holding 36 hives each. He removed the brood-chambers only, and left the stands. This I could not understand at first, but I finally hit on the plan and made one hive; it suited me; so I remodeled all my hives, put my bees into them, and I have lost none since. Previously I had lost about ⅔ of them each winter.

Unprotected Colonies.—Mrs. S. C. Tyler, Utica, ♂ Mo., on March 16, 1885, says:

Bee-keepers here who have lost their bees this winter, are selling the honey from the brood-combs at 5 cents per pound, and consequently the best honey brings only 12½ cents; 15 cents has been the price heretofore. Those who have lost the heaviest, wintered their bees unprotected on the summer stands. I packed mine in sawdust.

Drones Flying Plentifully.—S. C. Boylston, Charleston, ○+ S. C., on Mar. 18, 1885, writes as follows:

I reached home safely from New Orleans, and found my bees in splendid condition. Drones were flying plentifully yesterday, and several of my colonies have from 6 to 8 frames of brood. On March 10, 11 and 12 we had quite a successful exhibition of poultry and pets generally, at Charleston, S. C. I carried down a colony of black bees, and one of Italians, and a general assortment of apiarian implements, hives, extractors, etc., also some extracted honey in bottles. I sold all the honey out in ten minutes to one purchaser, who allowed it to remain until the close of the exhibition; and if I had had twenty times as much, I could have disposed of all of it. This was the first exhibition of the kind in Charleston, and it attracted much attention.

Terrible Loss of Bees.—L. R. Jackson, Urmeyville, ⊙ Ind., on March 20, 1885, writes as follows:

Ninety-six per cent. of all the bees in this part of the country are dead, and spring opens to-day with the mercury at 2° below zero. Out of 94 colonies which I packed for winter, only 3 are left, and many have lost all their bees. They began to die early in the winter without any apparent cause, and during all the winter I have not been able to discover any signs of any disease, or why the bees have died. Sixteen years ago, the bees here died in the same way, and people had just begun to take an interest in them again, but now it will be different. I find that nearly all who have lost their bees will buy more this spring, if they can get them at a reasonable price. We want to fill up our old hives, and save the combs, and if we must lose our bees only once in 16 years, we can well afford to stock up again.

No Fears of Pollen.—J. H. Tait, Endicott, ○⌐ Nebr., on March 16, 1885, writes thus:

I have been a careful reader of the Bee Journal for three years, and from it I have received much valuable information on the management and care of bees. I have watched the pollen discussion with considerable interest, and was "almost persuaded" that pollen was the deadly enemy to successful wintering; but my experience this winter has completely relieved my mind from any fear in that direction. On Nov. 19, 1884, I placed 16 colonies of bees in my cellar, all being in two-story, 8 and 10 frame Langstroth hives. The section-cases were all removed, and the quilts spread over the honey-boards. The brood-chamber had not been disturbed after the honey-flow had set in, as I work my bees for comb honey alone. On March 11, I removed them from the cellar to the summer stands, and I found, upon examination, that every colony was in prime condition, with pollen in every hive, and in almost every frame, and not the least symptom of diarrhea was to be found anywhere; there was brood in all stages of development. One of my neighbors who had extracted the honey from the brood-frames, removed every particle of pollen and fed A sugar for winter stores, put his bees out at about the time I did, and they were terribly affected with the diarrhea.

Report, from W. C. Hamilton, Benton City, ⊙ Mo., on March 19, 1885:

I commenced the winter with 91 colonies, and I have lost 34 of them, the cause being starvation with plenty of honey almost in reach of the cluster. The weather has been so cold that the bees could not get 2 inches from the cluster in order to get at the honey.

Report, from Rev. E. L. Dresser, Huron, ♂ Ohio:

My little apiary did fairly well during the past season. They came out strong last spring, and were in good condition for the honey-flow. My best colony and its increase produced 125 pounds of comb honey; the average per colony was 75 pounds. I doubled the original number in the spring by dividing them, and I had one natural swarm which went to the woods. They are all packed in chaff on the summer stands in three styles of hives, with which I am experimenting.

Ready for the Extractor.—J. W. Winder, Carrollton, ○⌐ La., on March 15, 1885, says:

Bees are doing well and have begun to swarm. I will commence extracting next week. The weather is fine and favorable.

Report, from Albert L. Martin, Leonardsburg, ⊙ Ohio, on March 21, 1885:

Bees have wintered poorly where they were not cared for. A great many bee-keepers in this section do not pay much attention to their bees. The last summer was a very dry one from July 5 until fall, and there was scarcely any rain until it was too late to benefit the flowers. The bees stored considerable cider. They quit rearing young bees very early, and this left mostly old bees for winter, and not very many of them. With colonies in this condition, and unprotected during winter, what could bee-keepers expect but empty hives? This class of bee-keepers have all the empty hives they will want for the coming season. Those who fed their bees to keep them rearing brood, and put them in a bee-house or cellar, are having good success. We have had a very severe winter here, and the ground is still frozen to a depth of from 18 to 24 inches on the level. Wheat is now suffering badly in this section. I think that Alsike clover is a paying crop, besides being an excellent honey-plant. I intend sowing buckwheat for my bees, for I think that the honey obtained from it will pay the expenses connected with its raising, and then I will have the buckwheat as a clear profit.

Bees Almost Extinct.—W. R. Elwood, Lindley,δ Mo., on March 15, 1885, writes :

One-half of my bees are now dead, and the others are dwindling very rapidly. The packing around them proved insufficient to keep them from freezing, as they were frozen in a solid mass with plenty of honey in the hives ; those left are affected very badly with diarrhea. I think that by May 1, all will be dead. The oldest settlers here say that they never experienced colder weather anywhere, the ground being frozen to a depth of 3 feet. The mercury ranged from 30° above to 30° below zero, seldom rising above zero through the latter part of January and the whole of February. Two-thirds, if not more, of the bees in Northwestern Missouri are dead. A neighbor reports that one-half of the bees in his apiary of 175 colonies are dead ; many other apiaries of lesser magnitude have suffered worse. March has come and with it the sweet breath of Spring is wafted o'er hill and dale to gladden and soften the hearts sickened and chilled by the frosts of the terrible winter just passed.

Device for Reversing Frames.—A. P. Fletcher, East Franklin,⟍○ Vt., writes as follows :

I think that the following device is a speedy and simple one for making reversible frames, and one which will commend itself to any bee-keeper. Although it may not be a new idea, it appears to be quickly made and adjusted, and handy in its operation : Simply take a piece of one-inch or ⅞-inch hoop-iron, bend the end to form the projection for the rabbet, then make a screw-hole near the lower end, at the right distance to place the screw upon which the frame revolves, in the centre of the end-bar. It is necessary to put a small screw or nail through the iron near the top-bar of the frame on one side, to prevent the frame from revolving, or tipping to either side. This device appears very simple, as it can be applied to any hanging frame without changing the bee-space at the ends of the frames.

Severe Losses of Bees.—J. W. Margrave, Hiawatha,δ Kansas, on March 16, 1885, writes :

The losses are far greater in this region than they were during the winter of 1880–81 ; I think that the average loss will not be much short of 90 per cent., and my own will probably be something more than that. I had 66 colonies last fall, doubled them back to 53, fed 15 colonies 150 lbs. of granulated sugar, put a 5-inch case on top of all the hives filled with dry forest leaves, and left them on the summer stands ; now I find that 48 of the 53 are dead, and a great many of the hives are badly soiled ; some are clean, but the bees dead ; some have nearly all the stores consumed, and others have 20 to 30 lbs. of honey left ; some have perished with some honey in the same combs on which were the bees ! I find what is the strangest thing of all, viz : unhatched brood in a large majority of the hives, but nearly ready to hatch ; some had already hatched. Can Mr. Heddon tell why the queens commence laying during such intense cold ? Was it the result of the last season's honey crop being so very poor that their honey was so mixed with pollen that that stimulated the queens ? Some of the honey that is left is nearly bitter with pollen. I ought to have said that the brood was usually confined to 2 or 3 combs from 2 to 4 inches in diameter. The bees were spread over it trying to keep it warm. Mr. L. C. Clark, of Granada, Kans., writes me that his bees are all safe ; he had them in a cellar. Mr. Davis, of Missouri, says that half of his bees are in the cellar and half outside, and he has lost 50 per cent. of each. The losses are great all over this country—Missouri, Kansas and Nebraska are all included.

[Mr. Heddon replies to the above question as follows :

" Bees can and often do breed from 40 to 60 days in confinement, when kept in a repository where the temperature is between 40° and 50° above zero, and no signs of diarrhea are developed, and the bees come out bright and healthy, the only ill condition being that they will leave their hives in considerable individual numbers and perish on the cellar bottom, if they are not given about a tablespoonful of water daily ; if they are, they will not. I cannot more than conjecture why the queens begin to lay while it is so cold. Diarrhea and breeding have a relationship, but just how, and which is the cause and which is the effect, I do not yet know. I have found out enough to satisfy me of the correctness of the pollen theory, and that my days of winter losses are all past. Your own solution under your question may be, and perhaps is, the proper one. Though heat is necessary to successful breeding, it is not true that a high temperature in a winter repository always tends to breeding."

Report, from G. W. King, Dexter,○⟍ Minn., on March 23, 1885:

Last spring I began with 10 colonies of bees, and during the season I increased them to 29 colonies, and I obtained 1,000 pounds of comb honey in one-pound sections. I got but little honey until July. The fall crop was good. I put 29 colonies into my bee-cellar last fall ; the mice destroyed one colony and one died of starvation, but the remainder are in good condition.

Apicultural Apprentices.—Benjamin Guest, Ambia,+○ Ind., writes thus :

As the time is approaching for those who are interested in apiculture to prepare for the season's work, no doubt many will, like myself, conclude that the best method for the most rapid advancement, both for the season and in the future, will be to serve an apprenticeship. I wish to say to all who may be considering serving an apprenticeship, look well before you leap. It is better to spend $200 in corresponding with, or, what is better, visiting different apiarists, than to receive false impressions with which to start. I now more fully realize the vast importance of a right start than I ever did before. If students in apiculture will only secure an apprenticeship with the right teacher, they cannot but be benefitted.

Bee-Diarrhea in the South.—The one who propounded Query No. 4, page 36, writes thus :

Dr. J. P. H. Brown was evidently correct in his surmises on Query No. 4 ; but I wish to say to Mr. G. W. Demaree, as he wrote on page 100, that if the bees had had an air-space above the frames, the dying of young bees would not have occurred, that they did have upward ventilation. My bees did have the diarrhea, and I am convinced that bees in the South are more liable to the disease, than elsewhere ; for they are continually gathering honey in the winter, and sometimes a cold spell comes on and causes them to eat this unripe honey, thus causing this usually fatal disease. My bees are now pretty well over their sickness, but they are very weak, and there is still some trace of the disease.

Report, from L. S. Guice, Mount Landing,+○ Miss., on March 16, 1885 :

In August, 1883, I purchased 9 colonies of bees, and by dividing them, I had 16 colonies with plenty of honey for the winter. During the season of 1884, I worked them for increase only, and closed the season with 60 colonies in good condition. I have lost only 3 colonies during the past winter, being the result of moving them a short distance when they were flying just before a severe cold spell ; so I am starting in this season with 57 good colonies. My bees have been bringing in pollen for some time, they are rear-brood fast now, and I think that they will begin swarming by April 15. I will report at the end of the season what success I have, as I am keeping close account of everything.

Destroying Ants and Ant-Hills.—J. Reynolds, Clinton,♀ Maine, writes thus :

Having been troubled for years with ants and ant-hills about my apiary, and after having repeatedly failed by trying many of the remedies recommended in various papers, I one day noticed the maul (such as wood choppers use for driving wedges when splitting wood) lying by the side of an ant-hill, and I immediately took it, the ground being a little moist at the time, and mauled down the ant-hill into a stiff mud. I served all I could find about the yard in the same manner, and I found it completely destroyed them. In about a week, however, a few ants started up new hills, by the side of the old ones, but another dose of the "maul" fixed them effectually, excepting a few stragglers that would collect under pieces of boards, or anything that came in their way, but these I destroyed by stamping with my boot. I then laid down a few pieces of boards for this purpose. Ants and ant-hills were very scarce about my bee-yard last summer. If the hills are too dry at the time, pour on a little water.

Report, from J. W. Sanders, Le Grand,⊙ Iowa, on March 20, 1885:

Some bee-keepers in this county have put out their bees, but I think that it is almost too early, unless they are returned to the cellars after having a flight, for it is yet cold and dreary. By a Marshalltown paper I notice that Mr. O. B. Barrows put his bees out on March 13, and out of 66 colonies he has lost 8; while Mr. Hanna, a short distance north of Mr. B., has lost 50 colonies out of 58. I hope to make a fuller report of this section in April.

Early Queen.—Otto Kleinow, Detroit,⊸ Mich., on March 23, 1885, writes:

In January, 1885, I found a young queen in front of one of my chaff hives, which would have hatched in about 3 days, and I surmised that the old queen must have died, and the bees had reared young queens; so on the first pleasant day I examined the combs and found one queen-cell torn open, but the old queen was all right. She had been reared last season. There were 3 frames with brood, from freshly laid eggs to hatching bees. It was an average colony, and contained a great many young bees. The queen is a Cyprian, and was mated with an Italian drone.

Bees Doing Well.—A. D. Bennett, Waterloo,⊙ Iowa, on March 24, 1885, writes:

We have had cold weather so far this spring, and it is cold and clear to-day. My bees are doing well in the cellar, but all that I left out-of-doors have died. Other bee-keepers here who have always wintered their bees out-of-doors with fair success, have lost all this winter, some having as many as 25 colonies. We look for general losses here, for it has been a very hard winter on bees.

Bees Seem All Right.—Ransom Allen, Carland,⊙ Mich., on March 19, 1885, says:

I have 80 colonies of bees in the cellar, which I put in on Dec. 5, 1884, and they are quiet and seem to be all right. Not having room, I left 8 colonies on the summer stands, and 3 of them are alive at present.

Reversible - Frame Suggestions.—Dr. D. C. Spencer, Augusta,⊸ Wis., writes as follows:

Perhaps not a few of us have a goodly number of partially filled frames that we would gladly see completely filled, and as this could be done if these were only "reversible," I wish to suggest how this can be done, and we can thus be able to experiment a little without going to the trouble and expense of getting new reversible frames and waiting to have them filled. I propose to saw off the projecting ends of the top-bars and supply their places with wires running across the ends of the entire frame, with the ends bent at right angles in opposite directions; one end of the wire will take the place of the once projecting end of the top-bar, and the other will be under the bottom-bar, affording a good support to the frame. This wire is fastened to the end-bars with two staples, such as are used in making window-blinds. When wishing to reverse a frame, do so, and turn the wire half way around, and replace it in the hive.

Extremely Cold.—G. M. Doolittle, Borodino,⊙ N. Y., on March 24, 1885, writes thus:

Since Jan. 20, it has been extremely cold in central New York, the mercury going below zero for over one-half of the nights since then. Especially cold has it been the last two weeks, the mercury being below zero every night except one during that time, and going as low as 20° below on one night; this morning it was 4° below. The snow is from 2 to 12 feet deep, according as it is drifted. Bees are suffering for a flight, except those which are in the cellar, and if they do not have a flight soon, a great loss will be the result.

Out-Door Wintering.—Jos. Beath, Corning,♀ Iowa, on Mar. 19, 1885, says:

The greater part of the bees which were wintered out-of-doors, in this neighborhood, are dead.

Bee-Hunting and Hibernation.—J. H. Andre, Lockwood,♀ N. Y., writes:

From my 25 years experience in bee-hunting and cutting of bee-trees at all seasons of the year, I think that I could shake the hibernation theory. It looks singular to me if hibernation means what some might call a *semi-comatose* condition (and that is as near a definition of it as we can get at), if bees in a bee-tree, when it is felled in winter, with the thermometer at zero, should wake up so quickly and rush out for a few seconds, if the tree happens to split, until they are overcome by cold. I have known of lumbermen being stung on a cold, wintry day, by cutting a tree accidentally before the bees became chilled.

☞ The bee-keepers of Portage county and vicinity will meet at Ravenna, Ohio, on April 24, 1885, for permanent organization. Let every bee-keeper be present.

L. G. REED, *Sec.*

Special Notices.

☞ Our inconveniences from the loss of our Smoker Factory are surmounted, and we are nearly up with our last season's shipments at this date. Our unusually large European and California early orders are now filled. This, with our new tools and extra help, will enable us to fill orders for Smokers and Knives on receipt of the same, during the season of 1885.

BINGHAM & HETHERINGTON.
Abronia, Mich., March 27, 1885.

☞ In response to an advertisement in the BEE JOURNAL, I have received some small amounts of money from several parties who failed to give their names. As I have no other way to reach them except through the BEE JOURNAL, I wish to say that their goods will be ready when I have their correct addresses. People who order goods and send for circulars should write their names and full addresses PLAINLY, and then they will get what they call for.

H. ALLEY.
Wenham, Mass.

☞ My New Factory is completed, and again in running order. As many in the South depended upon me for their Hives, etc., I had to rush things up, and I have lost no time in re-building.

P. L. VIALLON.
Bayou Goula, La., March 23, 1885.

☞ My factory was burned on Jan. 28, including all the new machinery and lumber. My loss was $3,500 with insurance of $500. I have replaced with new machinery and stock and am now ready for orders for supplies.

HILAS D. DAVIS.
Bradford, Vt., March 25, 1885.

☞ The Mahoning Valley Bee-Keepers' Association, will hold its next meeting at Newton Falls, Ohio, on Thursday, May 28, 1885.

E. W. TURNER, Sec.

Advertisements.

BEES for SALE

60 Colonies in Langstroth-Frame Hives; 20 in American Hives; frames, 11x12, outside. Address GEO. L. HERRLING,
13A4t La Clede, Fayette Co., Ills.

Dadant's Foundation Factory, wholesale and retail. See Advertisement in another column.

Albino and Italian QUEENS at Reduced Rates!

THOSE desiring to secure **Pure Albino Queens**, will best accomplish their object by purchasing of the original producer of this valuable and beautiful race of Bees. For Circulars, address,

D. A. PIKE,
9C2t4B1t SMITHSBURG, Wash Co., MD.

100 Colonies of Bees
FOR SALE. Apply to
13A1 **J. W. HOWELL, Kenton, Tenn.**

BEES FOR SALE!
Price per colony, $4 and less, according to hive.
MRS. SARAH L. STOVER,
13A2t ROSCOE, Winnebago Co., ILL.

Behold this Tear!

The cause of my grief is, that Doolittle's best

ITALIAN BEES

compel me to work so hard to care for their surplus Honey, that I have not attained my growth, even at this advanced age of life. It is a terrible warning to all, not to get any of his **Queens!** but perhaps others tougher than I, could "stand the racket." If any think they can, **Doolittle** will furnish Queens from his **Best Stock** at the following prices:

Untested Queens, each	$1 00
" " per doz	10 20
" " reared by natural swarming, each	1 50
Untested Queens, reared by natural swarming, per doz	15 00
Tested Queens, each	2 00
" " by natural swarming, each	3 00
" " 1884 raising, sent in May, each	5 00
Extra Selected, two years old, each	10 00

☞ If any further information is desired, send for 6-page Circular. Address,

G. M. DOOLITTLE,
10C5t **Borodino, Onon. Co., N. Y.**

BEES, EARLY QUEENS,

AND SUPPLIES FOR 1885.

If you need **Early Queens and Bees bred for business** and beauty, nuclei or full colonies; sections and hives of best workmanship; **Dunham or Vandervort Comb Foundation,** send for my catalogue for 1885.

Address **J. P. H. BROWN,**
5A21t AUGUSTA, GEORGIA.

$200,000 *in presents given away.* Send us 5 cents postage, and by mail you will get *free* a package of goods of large value, that will start you in work that will at once bring you in money faster than anything else in America. All about the $200,000 in presents with each box. Agents wanted everywhere, of either sex, of all ages, for all the time, or spare time only, to work for us at their own homes. Fortunes for all workers absolutely assured. Don't delay. H. HALLETT & Co.
51A1y Portland, Maine.

SOMETHING NEW!

THE Best-Made, handiest and cheapest combination,

Summer and Winter Hive

in the market. Send for Catalogue of general **APIARIAN SUPPLIES.** The best white poplar **SECTIONS** and pure yellow beeswax. **COMB FOUNDATION** a specialty.

Full Colonies, Nuclei Colonies and

QUEENS for SALE.

Be sure to send for 25th Annual Price List, before making your purchases for 1885.

Address **WM. W. CARY, Jr.**
COLERAINE, MASS.
3Dtf Successor to Wm. W. Cary & Son.

Friends, if you are in any way interested in

BEES OR HONEY

We will with pleasure send a sample copy of the **Semi-Monthly Gleanings in Bee-Culture,** with a descriptive price-list of the latest improvements in **Hives, Honey Extractors, Comb Foundation, Section Honey Boxes,** all books and journals, and everything pertaining to Bee Culture. *Nothing Patented.* Simply send your address *written plainly,* to

Ctf A. I. ROOT, Medina, O.

BEESWAX.

I pay **25c.** per pound delivered here, for yellow Beeswax. To avoid mistakes, the shipper's name should always be on each package.

ALFRED H. NEWMAN,
923 West Madison St., CHICAGO, ILL.

GEO. GRIMM, of Jefferson, Wis.,

Will sell **300 to 400**

COLONIES OF BEES

In the **8-Frame Langstroth Hive** at the following prices:

Pure Italians, 1 to 5	$6 50
" " 5 to 20	6 00
" " 20 or more	5 75
Hybrid Italians, 1 to 5	5 75
" " 5 to 20	5 25
" " 20 or more	5 00

TERMS and Conditions as follows: Orders will be booked only when accompanied by the **Cash,** and will be filled in their proper turn. I will ship some time in the month of May, and the exact date must be left in my discretion to be governed by the circumstances and the weather. Will notify before shipment. Will **Guarantee Safe Arrival** at last Express Station, and will guarantee satisfaction. 9D4t

---

APIARIAN SUPPLIES---1885.

ALL-IN-ONE-PIECE SECTIONS, Langstroth Hives, Section Cases, Shipping Crates, Brood Frames, Foundation, Smokers, and all other Supplies needed in the apiary. **ITALIAN BEES & QUEENS** in season. Send for Price-List. Address,
8C6t L. L. TRIEM, La Porte City, Iowa.

QUEENS **Send for Price-List of** Italian & Holy-Land Queens for **1885.** BEES by the pound, nuclei and full colonies. **J. C. MISHLER,**
11D6t **Ligonier, Noble County, Ind.**

FOR BEE-HIVES

And a general assortment of **Bee-Keepers' Supplies** send for circular to
51Dtf J. E. PRYOR, Dexter, Iowa.

DUNHAM AND VANDERVORT FOUNDATION.

WE have bought a large stock of **Choice Yellow Beeswax,** and can furnish Dunham Comb Foundation for brood comb for **50c.** per lb. Thin Dunham for Sections, **55c.** per lb. Extra thin Vandervort, 10 to 12 square feet to the lb., **60c** per lb. Will work up wax into Foundation for **10, 15 and 20c.** per lb. To induce our customers to order Foundation **early** in the season, we will allow **10** per cent. discount on all orders received before the 1st of May.

F. W. HOLMES,
9D9t COOPERSVILLE, Ottawa Co., MICH.

Bee-Hives and Supplies.

WE HAVE remodeled our machinery and can fill orders on short notice. If wanted, **Odd Sizes** made; send order now, before the rush comes. We have a large stock on hands. Price List free.

B. J. MILLER & CO.
1D6t NAPPANEE, Elkhart Co., Ind.

W. Z. HUTCHINSON,

Rogersville, Genesee Co., Mich.,

can furnish just as neat, white, smooth and perfect, dovetailed, white poplar sections as there are made. Send for sample and prices.
4Dtf

(ESTABLISHED 1864.)

BEE-SUPPLIES.

We furnish EVERYTHING needed in the Apiary, of practical construction, and at the **lowest price.** Satisfaction guaranteed. Send your address on a Postal card, and we will send you our Illustrated Catalogue free. **E. KRETCHMER.**
2C12t COBURG, IOWA.

HEADQUARTERS IN THE SOUTH

For the manufacture of

BEE-KEEPERS' SUPPLIES.

Dunham and Root Foundation a specialty. Italian Queens and Bees from March to November.
☞ Send for my Illustrated Catalogue.
5Ctf **PAUL L. VIALLON,** Bayou Goula, La.

BEE-KEEPERS' GUIDE;

Or, MANUAL OF THE APIARY.

12,000 SOLD SINCE 1876.

13th Thousand Just Out!

10th Thousand Sold in Just Four Months!

3,000 Sold Since May, 1883.

More than 50 pages, and more than 50 fine illustrations were added in the 8th edition. The whole work has been thoroughly revised, and contains the very latest in respect to bee-keeping. It is certainly the fullest and most scientific work treating of bees in the World. Price, by mail, **$1 25.** Liberal discount to dealers and to clubs.

A. J. COOK, Author and Publisher,
1C1y Agricultural College, Mich.

☞ For sale also at the Office of the BEE JOURNAL, at wholesale or retail.

IF YOU WANT SUPPLIES,

BEE-HIVES,

SECTIONS; COMB FOUNDATION, &c.,

don't fail to send for Catalogue of **Reduced Prices for 1885.**

J. J. HURLBERT,
2Ctf LYNDON, Whitesides Co., Ill.

---

50 Perfumed, Embossed, hidden name &c. Cards Sample Book and 51 Scrap Pictures 10c. Globe Co., Northford, Conn. 12A4t

---

40 Embossed and Hidden Name Cards, Hand holding Flowers, &c., Game of Fortune and Present, 10c., 11 packs, Pearl Ring and Handkerchief, M. BLAKESLEE & CO., North Haven, Ct.
8D6t

---

40 **Hidden Name, Embossed** and **New Chromo Cards,** name in new type, **an Elegant 48 page Gilt bound Floral Autograph Album** with quotations, 12 page Illustrated Premium and Price List and Agent's Canvassing Outfit, all for 15 cts. SNOW & CO., Meriden, Conn.
7D6t

CARDS & KNIFE FREE!

50 different designs **Birds, Swiss Floral, Ivy Wreath, Gold Panel, Sentiment, Oval Embossed, Summer, Winter, Moonlight & Marine scenes,** all in beautiful colors on superfine enameled board

with your name in fancy type 10c. 11 pks and this beautiful Pearl Handle 4-bladed Knife **(for lady or gent)** $1.00 By getting 10 of your friends to send with you, you obtain an elegant knife and a lovely pack of cards FREE. **CAXTON PRINTING CO.,** Wallingford, Conn.
7D6t

FREE! FREE! **Solid Gold and Silver Watches, Chains, Rings, and 100** other **useful** articles **absolutely Free! 50 Elegant Gold Leaf Embossed and Souvenir Cards** with your **name** in New **script** Type, **10c., 2 packs** and **8 Elegant French Dolls** with **wardrobe** of **32** pieces, **20c 3 packs** and this beautiful **Rolled Gold Ring, 30c.** Our styles of **Imported, Satin Fringe** and **Real Silk Florals are unequaled. Full instructions** how to **obtain** all the above **articles free,** also a **full line of samples free with every order. We want Agents,** and offer **Gold to those who seek it. Agents make $5.00** per day handling **our goods.** Send **at once; don't miss** this opportunity as this **offer may not be repeated.** Address **WEST HAVEN MANUFACTURING WORKS, West Haven, Conn.**
7D6t

---

50 LATEST STYLE FLORAL BEAUTIES, Motto, Landscape and Satin Cards with your name on, also 1 Perfume Sachet, 1 sheeet of Embossed Pictures, 1 set of Agent's Samples, Premium List, &c., all for **10c.;** 5 packs, 5 Perfume Sachets, 5 sheets of Embossed Pictures, Agent's Outfit and a **Lovely Rolled Gold Finger Ring for only 50 cents. FRANKLIN PRINTING CO., New Haven, Conn.**
11D4t

---

40 Hidden Name and Embossed **CARDS** and this Perfumed Satchet for 12c. Samples, 4c. CLINTON & CO., North Haven, Conn.
☞ *We have seen cards from many firms, but none as pretty as those from Clinton & Co.*
11A10t

Muth's Honey Extractor,

Square Glass Honey Jars, Tin Buckets,
Langstroth Bee-Hives, Honey-Sections, etc.

Apply to **C. F. MUTH,**
976 and 978 Central Ave., **CINCINNATI, O.**

☞ Send 10c. for Practical Hints to Bee-Keepers.

Dadant's Foundation Factory, wholesale and retail. See Advertisement in another column.

1868. 1885.

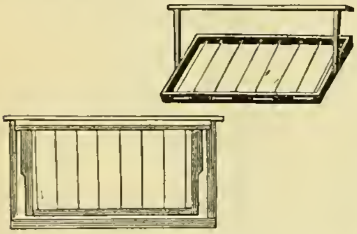
HEDDON'S
COLUMN.

900 COMBS

In American Frames, 12x12 (outside measure). These combs are only two years old, on full sheets of worker Foundation, and on wires; first-class.

Each	$ .18
Per 100	15.00

My New Reversible Frames,



(SEE PAGE 8, BEE JOURNAL FOR 1885).

Made up, wired, and filled full of best Given Comb Foundation, put on with the Press, and attached to the top-bar.

Each	$ .18
Per 100	15.00

The Brood Chamber, or body of our Hive, will hold 13 of these Frames, when put in snugly for shipping. Our Extracting Super will hold the same number. For this purpose, we will ship these Frames in them, charging only 30 cts. for Brood Chamber and 20 cts. for Extracting Super, both painted white.

WAX MADE UP
Into best Given Foundation at low prices. **CASH for Wax.**

Apiary and Home For Sale
AT A BARGAIN!

Location unexcelled in any respect.

Hives in the Flat
OR MADE UP COMPLETE,

Either for **Comb** or **Extracted Honey**, cheaper than many can procure material at home. Write for special prices in quantity, and state the number wanted.

STUDENTS.

Those who are going to make application for a place in my apiary for 1885, should apply for Prospectus and Terms **at once.**

SEND YOUR ADDRESS
For my 32-page
CATALOGUE FOR 1885.

Address, **JAMES HEDDON,**
DOWAGIAC, Cass County, MICH.

Choice Comb Foundation

I WISH to say to my numerous friends that I will use, the coming season, a new Vandervort Machine of the latest make, and will send out only the finest work; also Dunham heavy. Send for samples and Circular.

J. V. CALDWELL,
9Atf CAMBRIDGE, ILL.

SUMNER & PRIME,
Bristol, Vt.,
BEE-KEEPERS' SUPPLIES.

WE HAVE just completed our Factory, furnished it with the most improved Machinery, and are now prepared to fill all orders for **BEE-FIXTURES** of every description. **WHITE POPLAR SECTIONS** of all sizes a specialty. All orders will receive prompt attention. Send for Catalogue Price-List and samples. 10A12t

---

THE INVERTIBLE HIVE!
INVERTIBLE FRAMES,
Invertible Surplus Honey Cases,
Entrance Feeders, Top and Bottom Feeders,
Hive-Lifting Device, Honey Extractors,
Wax Extractors, Comb Foundation, etc.

☞ My new Illustrated Catalogue is now ready, and will be mailed to all who may apply for it. Address,

J. M. SHUCK,
DES MOINES, IOWA.
10A1y

Bee-Keepers' Supplies.

We have added to our LARGE FACTORY a SPECIAL DEPARTMENT for the

Manufacturing of Bee-Hives,
AND
White Poplar Dovetailed SECTIONS.
Also, One and Two-piece

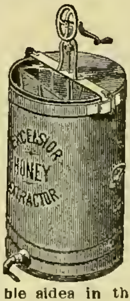
☞ All Orders will be filled promptly at the **LOWEST FIGURES,**

Send Stamp for Catalogue and Samples.

The H. F. MOELLER M'f'g Co.
1A26t DAVENPORT, IOWA.

J. W. ECKMAN,
DEALER IN
Pure Italian Bees and Queens
For further information, send for Circular.
11A13t RICHMOND, Fort Bend Co. TEXAS.

EXCELSIOR
HONEY EXTRACTORS



In answer to frequent inquiries for Extractors carrying 3 and 4 Langstroth frames, I have concluded to adopt these two new sizes. The 3 frame basket is in a can of the same size and style as the 2 frame. The 4 frame basket is in the larger can, with the cone or metal standard for the basket to revolve upon, leaving room underneath the basket for 75 or 80 lbs. of honey. It will be complete, with covers, and in every way identical, except in size, with the $16.00 Extractor, 13x20, which is intended for any size of frame.

Excepting with the $8.00 Extractors, all the different styles have strainers over the canal leading to the honey gate, and movable sides in the Comb Baskets. The $8.00 and $10.00 Extractors have no covers.

For 2 American frames,	13x13	inches	$8 00
For 2 Langstroth "	10x18	"	8 00
For 3 " "	10x18	"	10 00
For 4 " "	10x18	"	14 00
For 2 frames of any size,	13x20	"	12 00
For 3 " "	13x20	"	12 00
For 4 " "	13x20	"	16 00

ALFRED H. NEWMAN,
923 West Madison St., CHICAGO, ILL.

The VICTOR HIVE

DOUBLE-WALLED or CHAFF HIVES 5 in one lot, each, **$3 50;** 10, each, **$3 40;** 25, each, **$3.25;** 100, each, **$3.00**—in the Flat.

SINGLE-WALLED HIVES, 5 in one lot, each, **$2.50;** 10, each, **$2 40;** 25, each, **$2.25;** 100, each, **$2.00**—in the Flat.

WHITE POPLAR DOVETAILED SECTIONS, any size under 6x6x1¾, per 1,000, $6.00. Perfectly accurate; no better.

APIS AMERICANA.—Orders for Queens of the beautiful **SYRIO-ALBINOS,** will now be received. Reared by my **new method,** all are large and fine and perfect. We have made a great discovery in Queen-Rearing, and hereby challenge the production (by natural swarming or otherwise) of Queens that will excel ours in any valuable quality. Isolated 3 miles from other bees. First come, first served. Send for circulars.

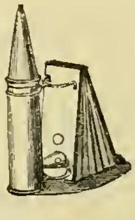
Address, **DR. G. L. TINKER,**
1Atf **New Philadelphia, O.**

A PRIZE,
Send six cents for postage, and receive free, a costly box of goods which will help you to more money right away than anything else in this world. All, of either sex, succeed from first hour. The broad road to fortune opens before the workers, absolutely sure. At once address TRUE & CO., Augusta, Maine.
51A1y

1879. —**ITALIAN**— 1885.

QUEENS!

FOR ITALIAN QUEENS in their purity, and that cannot be excelled, **Comb Foundation** and **Supplies** generally, send for Circular.
10A4t **T. S. HALL, Kirby's Creek, Ala.**



Bee-keepers' Supplies,
Standard Langstroth,
Quinby Standing-Frame,
And all other kinds of **Hives,**
MADE TO ORDER,
Quinby Smoker a specialty.

I shall supply anything you need in the Apiary. Send for Illustrated Price List.

W. E. CLARK, successor to L. C. Root,
7A13t ORISKANY, Oneida County, N. Y.

Hives! Sections! | 1885 | **Hives! Sections!**

CHEAP!

Simplicity Hives in the Flat complete, $1. **Basswood Sections,** kiln dried, nice and white. Special inducements on large orders. Send for Price-List and sample of Sections.

A. D. BENHAM, OLIVET, EATON CO., MICH.
11Ctf

WEEKLY EDITION
OF THE
AMERICAN
ESTABLISHED IN 1861
OLDEST BEE PAPER IN AMERICA
BEE JOURNAL
PUBLISHED BY
THOMAS G. NEWMAN,
EDITOR AND PROPRIETOR,
925 WEST MADISON-STREET, CHICAGO, ILL.
Weekly, $2 a year; Monthly, 50 cents.

Vol. XXI. April 8, 1885. No. 14.

☞ From a private source, the Rev. E. H. Bellairs, of Christ Church, England, has obtained the information from the Principal Statistical Department of Customs, that the value of honey imported into Great Britain during the month of January, 1885, amounted to £804 in value, or about $4,000. This came principally from America.

◆

☞ A correspondent asks what is the necessary degree of heat in order for bees to work at comb building and brood-rearing in the hive. It should be about 95° Fahr. The degree of heat in a hive even in winter, is much more than it is generally thought to be. In January, a thermometer standing near an apiary, indicated 7° below the freezing point, but when the bulb was inserted a little way into the entrance of a hive, it rose 23° above that point. Had it been inserted into the cluster, it would have indicated a much higher figure.

◆

☞ The honey-dew stores which many bee-keepers allowed their bees to retain for winter food, have killed myriads of bees. The BEE JOURNAL gave due warning last August in these words: "If the fall honey crop should be a poor one, the bees may have nothing upon which to subsist during the coming winter, except this secretion of the aphidæ, misnamed honey-dew, and the result of such a state of affairs may be very detrimental—spreading disease and death all around. We give this word of warning thus early, so that no one may have an excuse for neglecting the matter until it is too late, and thus entail a severe loss of bees during the next winter." Now, the losers are *mourning*.

Honey Crop of Southern California.

The following from Mr. J. E. Pleasants, of Los Angeles, Cal., was read at the Bee Congress at New Orleans:

The honey business of Southern California has sprung up within the last 10 or 12 years; and when we consider that the product in a favorable season amounts to 20,000,000 pounds, and that this honey is up to the highest standard of excellence in quality, we have a realization of the importance of the industry, not only to Southern California, but to the world at large.

The chief season for honey production lasts during eight months of the year, while there is no part of the year in which it is not produced, the only cessation of work by the bees being during a comparatively few days of unfavorable weather. The great variety of honey-producing plants, rich in nectar, makes this the natural home of the honey-bee, and the paradise of the apiarist; while, for any other purpose, much of this region is a barren waste, with no other redeeming quality but its genial sunshine. It is no wonder, therefore, that the full attention of individuals is given up to this business. If we examine the statistics we shall find that though bee-keeping is in its infancy, the honey product of this section exceeds that of all the country east of the Rocky Mountains combined. No where else is such extensive and systematic attention given to the business.

The willows and alfillarilla, which grow in abundance, furnish the earliest food for the bees. Then follow the wild sage, the wild alfalfa, wild buckwheat, wild coffee, bearberry and sumac. The sage, alfalfa and sumac are the most abundant in nectar, and are plants from which the choicest of our honey is obtained.

I would estimate that about three-fifths of the product is exported. A large share of it finds a market in Germany, Glasgow, Paris and Liverpool, far the largest share going to the latter place; besides, markets are being opened up in the eastern States of our own country, as well as in China; and I may add that most of the quantity exported is extracted from the comb. I have no doubt, from the favor with which our honey is received, that it will find an increased and ready market in proportion to the prospective amount of production. It is appparent that the present price of honey brings it within the reach of all, while the prospects of lower freight will tend to increase the production and profits of the producer.

To epitomize, the following figures are given in this connection: Estimate of the honey business of southern California is as follows: Number of bee-keepers, 1,000; colonies of bees, 100,000; amount of honey to the colony, 200 pounds, or in all, 10,000 tons. The wax amounts to 5 pounds to the colony, or makes this product amount to 500,000 pounds; at the market value of 25 cents per pound, we have the snug sum of $125,000 for the wax alone. The quality of this honey and wax equals any in the world, not excepting the honey product of the islands of Crete and Minorca; and the time is not far distant when the gorges and canyons of Southern California, which abound in the honey-producing plants, will become the homes of a happy and prosperous population engaged in the honey industry.

◆

☞ Mr. Arthur Todd, of Germantown, Pa., requests us to make the following announcement. He says:

I am just in the receipt of a letter from Frank Cheshire, Esq., of London, in which he says: "I should regard a little piece of comb containing the remains of larvæ dead of foul brood, as a great acquisition, since it would enable me to determine the identity or otherwise of the *bacilli* on the two sides of the Atlantic."

Will you kindly give this publicity in the Weekly BEE JOURNAL, so that some one in possession of samples of foul brood may aid in valuable researches by mailing as requested? Address, "Mr. Frank Cheshire, Avenue House, Acton, London, England."

In mailing, be kind enough to pack securely in wadding, enclosed in a wooden box, so that the samples will not be useless when they reach London. ARTHUR TODD.

We do not like the idea of sending such through the mails. If it is sent, however, it should be securely packed and protected, as requested above.

◆

☞ H. C. Austin, Austin's Springs, Tenn., on March 27, 1885, writes thus concerning the photographs taken at the late bee-keepers' congress:

I have just received the photograph of the late bee-keepers congress, but it is not gotten up according to agreement. As a member of the committee making the contract, I will say that it was plainly understood that the photographs were to be numbered, mounted, burnished, and mailed between two wooden boards; yet the bee-keepers are not numbered, it is not mounted, neither is it burnished. I do not want bee-keepers to think that the committee would knowingly get them to pay 75 cents each for work done in that style.

As nearly all those represented were personally unacquainted with each other, the photograph as it is is of but little use to them. Should not the committee have procured "numbers" for each person to be pinned to their breasts and thus appear on the photographs? Then it would have been an easy matter to have the names, correspondingly numbered, printed at the bottom. Perhaps this might yet be remedied, and new ones obtained. What does Mr. Winder say to this?

QUERIES

WITH

REPLIES by Prominent Apiarists.

Winter Passages in Combs.

Query, No. 45.—Do bees make their winter passages in the combs? I have noticed when I transfer bees and combs from box-hives, that some of the combs have nice round holes in them about ½ of an inch in diameter.—East Saginaw, Mich.

Dr. G. L. Tinker answers as follows: "It is common to find passages through the combs in box-hives, but where sheets of foundation are used in the brood-chamber, the bees do not often make holes through them, and when winter passages are cut in the fall, they are soon closed unless a wooden tube is inserted. Many colonies on deep frames are lost every winter for the want of passages for the bees to cross to other combs containing honey. With a shallow brood-frame they do not seem to be necessary, as the bees and queen can easily and safely pass under the combs in cold weather, to other parts of the hive. I think this the strongest argument in favor of a shallow frame for winter. Should bee-keepers adopt reversible frames and all combs be extended to the bottom of the frames, I predict that winter passages will be necessary, and one of the best features of the Langstroth frame for winter will be lost. I think that cross-sticks over the frames in winter are a nuisance."

Prof. A. J. Cook says: "They do not. The holes were accidental."

Dadant & Son answer thus: "Bees do not make passages in the combs in preparing for winter."

W. Z. Hutchinson replies thus: "I think that it is the cross-sticks in the box-hives that cause the bees to leave holes."

G. M. Doolittle says: "The holes are where the bees have taken out moth-larvæ or some other offensive substance, some of the comb having been removed with it. I formerly used winter passages, but in late years I have considered them a nuisance."

G. W. Demaree answers thus: "I have transferred many colonies of bees from box-hives, and have never seen any uniformity of comb-building. I have frequently seen the little round holes mentioned in the question, but I have noticed that they are as likely to be found in one part of the hive as in another. This shows that there is no system in comb-building when bees are left without a guider, except in spacing the cells, and as curious as it may seem, some colonies excel in this handiwork."

Dr. C. C. Miller replies thus: "Only by accident, as where the bees have gnawed a hole where worms have been, or sometimes where a queen-cell has been."

James Heddon answers as follows: "I do not think that bees ever leave holes through their combs, with a view of using them for winter passage-ways. The irregularity of the combs in box-hives, caused in part by the usual cross-sticks, and in part by the lack of the better guides that higher intelligences now furnish them, act as a cause for these holes."

◆

Queenless Colonies in the Spring.

Query, No. 46.—What is the best thing to do with queenless colonies in early spring? If it is best to unite them, what is the best method of doing it?—G. A. M.

G. W. Demaree answers as follows: "Doubtless 'locality' will stand in the way of a uniform opinion on this subject. There are two classes of queenless colonies found in the spring—the colony that has wintered without a queen, and the colony that loses its queen in the spring. The former never has a fertile worker; the latter sometimes does. If the colony starts queen-cells promptly, I never fail to save them by giving them a piece of comb containing larvæ just hatched. The proper time to give the larvæ is when the first sealed drone-brood is found in the apiary. I save 2 or 3 colonies every spring in this way, and they give as good returns as other colonies."

W. Z. Hutchinson replies thus: "If there are but few colonies, secure a queen from the South for a queenless colony. If the bee-keeper has bees enough to gather the nectar from the area that is bee-flight from his apiary, it is no object to preserve the colony, and it can be joined to another colony by simply shaking the bees in front of the hive."

G. M. Doolittle says: "If the queenless colony is in fair strength, give it a frame of brood once a week from other colonies, until a laying queen can be had. If it is a weak one, it will hardly pay for the fussing with."

Dadant & Son answer thus: "If a queenless colony is strong after winter, give it some brood from other colonies; if weak, unite it with another."

Prof. A. J. Cook remarks thus: "To unite them. By short removes get the colony close side by side with the one to which it is to be united. Smoke them thoroughly, so as all the bees will fill themselves with honey, then place all in one hive, alternating frames. This never fails with me."

Dr. C. C. Miller says: "Unite with a weak colony having a fertile queen. If united at the time of first spring flight, there will be little trouble if frames with adhering bees are put from one hive into the other."

James Heddon replies as follows: "It is usually best to give up the identity of the colony, and unite the bees with another, if your colony is broodless as well as 'queenless,' which is usually the rule. If your surplus harvest is not all early, and the bees are still quite numerous, and you have more combs than queens to fill them, it will then pay to get a queen with which to re-queen the colony, if not too costly to procure."

Dr. G. L. Tinker remarks thus: "Queenless colonies in early spring should be united with the weakest ones having queens. To unite, select a time just after the bees have had a flight, if cool, or toward evening, if warm; move the colony with the queen to the stand of the queenless colony, and shake the bees of the latter from the combs and hive in front of it. Smoking the bees a little as they go in will insure the safety of the queen. After dark, take the colony to its original stand, and remove the hive and stand of the queenless colony, to some other location."

H. R. Boardman answers thus: "Queenless colonies in the spring should be united with those having a good queen. There are many ways of doing this successfully. A very easy way is to crowd the bees having the queen, upon as few combs as possible, with a division-board; then set the combs containing the queenless colony in the space on the opposite side of the board, leaving only a small hole for communication between the two colonies, when they will unite of their own accord in a short time. Leave the entrance open only to the colony with the queen."

◆

Local Convention Directory.

1885. *Time and place of Meeting.*

Apr. 11.—Wabash County, at Wabash, Ind.
Henry Cripe, Sec., N. Manchester, Ind.

Apr. 18.—Marshalltown, at Marshalltown, Iowa
J. W. Sanders, Sec., Marshalltown, Iowa.

Apr. 18.—Eastern Indiana, at Richmond, Ind.
M. G. Reynolds, Sec., Williamsburg, Ind.

Apr. 23.—Union Ky., at Eminence, Ky.
G. W. Demaree, Sec., Christiansburg, Ky.

Apr. 23, 24.—Western, at Independence, Mo.
C. M. Crandall, Sec., Independence, Mo.

April 24.—Portage County, at Ravenna, O.
L. G. Reed, Sec., Kent, O.

Apr. 25.—Union, at Earlham, Iowa.
M. E. Darby, Sec., Dexter, Iowa.

Apr. 28.—DesMoines County, at Burlington, Iowa.
Jno. Nau, Sec., Middleton, Iowa.

May 2.—Central Illinois, at Jacksonville, Ill.
Wm. Camm, Sec., Murrayville, Ill.

May 4.—W. New York and N. Pa., at Cuba, N. Y.
W. A. Shewman, Sec., Randolph, N. Y.

May 4.—Linwood, Wis., at Rock Elm Centre, Wis.
B. Thomson, Sec., Waverly, Wis.

May 7.—Progressive, at Bushnell, Ills.
J. G. Norton, Sec., Macomb, Ills.

May, 7, 8.—Texas State, at McKinney, Tex.
W. R. Howard, Sec., Kingston, Tex.

May 12.—Cortland Union, at Cortland, N. Y.
W. H. Beach Sec., Cortland, N. Y.

May 19.—N. W. Ills., and S. W. Wis., at Davis, Ills.
Jonathan Stewart, Sec., Rock City, Ill.

May 28.—Mahoning Valley, at Newton Falls, O.
E. W. Turner, Sec., Newton Falls, O.

May 28.—N. Mich. Picnic, near McBride, Mich.
F. A. Palmer, Sec., McBride, Mich.

May 29.—Haldimand, Ont., at Nelles' Corners, Ont.
E. C. Campbell, Sec.

June 19.—Willamette Valley, at La Fayette, Oreg.
E. J. Hadley, Sec.

Dec. 8—10.—Michigan State, at Detroit, Mich.
H. D. Cutting, Sec., Clinton, Mich.

☞ In order to have this table complete, Secretaries are requested to forward full particulars of time and place of future meetings.—Ed.

CORRESPONDENCE.

Explanatory.—The figures BEFORE the names indicate the number of years that the person has kept bees. Those AFTER, show the number of colonies the writer had in the previous spring and fall, or fall and spring, as the time of the year may require.

This mark ⊙ indicates that the apiarist is located near the centre of the State named: ♁ north of the centre ; ♀ south ; O+ east ; +O west; and this ♂ northeast; ⊸ northwest; ⟜ southeast; and ⚲ southwest of the centre of the State mentioned.

For the American Bee Journal.

The Wintering Problem.

JAMES HEDDON.

While many have wintered their bees successfully part of the time, and others nearly or quite all of the winters that they have been in the bee-business, no one has ever been able to give satisfactory reasons for such success, or, in other words, to lay down a formula by which bee-keepers in other localities, with different food in their hives, could realize the same success. For years, many of us have been studying the problem with the hope of being able to benefit those who now are in the business, by laying down certain directions which, if followed, would give certain success.

The reader will remember that I have stood as one among that number ; he will also remember that I have never at any time felt or claimed that I understood the wintering problem ; and that I have put forth the theory (not claiming to know) that the cause of bee-diarrhea was the consumption of nitrogen taken by way of bee-bread and floating pollen in the honey during confinement. This has been called "Heddon's Pollen Theory," and has been believed in by many, and disbelieved by many other worthy apiarists.

I am now prepared to say that I think I practically understood the problem, yet I do not claim to be able to give all of the detailed laws connected with it, but I will give the main ones as I understand them, and I will say that the most responsible man in America could not under-write a policy to insure the future wintering of my colonies at 10 cents each. To this satisfactory confidence, I am indebted to Prof. A. J. Cook, and some of the names which I am going to mention, and I may add, to the sharp controversies contained in the BEE JOURNAL, all thrown in, and my costly experiments made during the past two winters.

Before attempting to show the cause of bee-diarrhea and the death resulting therefrom, I wish to take up a few theories—not my own—with a view of showing what it is not.

First, the "hibernation theory:" I cannot better express my convictions upon that theory than by quoting three words from Prof. A. J. Cook: "Bees never hibernate."

Second, the "humidity theory :" Some will remember what I have already written in the BEE JOURNAL about Mr. Balch's damp, moldy bees. A letter from Mr. Boomhower, the successful gentleman quoted by Mr. Corneil, on page 56, contains the following sentence : "I have wintered bees in eight different cellars, some dry and some damp, and always with perfect success, and I never have had a ventilator of any kind in them." During the past winter I have used two cellars, one containing 40 and the other 91 colonies ; both cellars were allowed to become very cold, to test the endurance of bees with sugar syrup ; the temperature in the old cellar was down as low as 10° and 15°; in the new, damp cellar, as low as 25°. The old cellar contained bees with sugar syrup only, and of its 40 colonies, ¾ are now dead with no symptoms of diarrhea in any hive. The new, damp cellar containing the 91 colonies has 73 colonies without pollen or honey—sugar syrup only—10 colonies with little pollen, and stores of part honey and part sugar syrup, and 8 colonies having all natural stores. This cellar has been so damp that mold has collected on the alighting-boards and between the combs, on the underside of the covers, etc. About one-third of the colonies have upward ventilation by way of nails pushed under the board covers ; the other two-thirds have no upward ventilation whatever. In numerous hives, water can be seen running out on the alighting board. If the covers of those hives which are tight down, are lifted and turned up edgewise, water will run from them. The health of these 91 colonies stands thus : Of the 8 on natural stores, 4 died with the diarrhea, 2 others have the disease so badly that recovery is impossible, and the other 2 are apparently in perfect health. All were treated alike with no upward ventilation. Of the 10 with little bee-bread and mixed stores, 8 are in good health, while 2 have the diarrhea badly. Of the remaining 73, with nothing in the combs but pure sugar syrup, not one shows any signs of diarrhea whatever; all are alive but one, and the cause of its death is yet unknown and unexamined. I am satisfied in regard to the "humidity theory." A low temperature is to be avoided. Dampness being a conductor of heat, tends to aggravate the effects of cold. Dry hives and combs, free from mold, are preferable to the other extreme; therefore, while dampness is objectionable it is "not" the cause of bee-diarrhea.

Third, The "breeding-in-confinement theory :" Years ago I observed that colonies which were the worst affected with bee-diarrhea, as a rule, contained the most brood ; and I am to-day quite positive that there is something about breeding, whether in confinement or when the bees fly regularly, that is very depleting to them. So universally had I found my diarrhetic bees with brood in their combs, that I did think that the handling of pollen for breeding purposes, would produce bee-diarrhea ; though different from Mr. Doolittle, I did not consider breeding the main cause, but pollen—breeding an auxiliary cause to the use of pollen. The undeniable testimony brought forward by Mr. Corneil, on page 56, as well as what I am about to quote, shows that I was mistaken in this side-issue branch of my theory, and as far as I can see, they entirely up-root Mr. Doolittle's theory. Mr. H. V. Train, who now always winters his bees successfully, and quoted by Mr. Corneil on page 56, under date of March 9, 1885, writes the following to me : "If I can find how to prevent my bees from breeding too much and too early in the cellar, my plan of wintering just suits me. I do not expect that my bees will spot their surroundings when they are put out in the middle of April any more than they would after a long storm in the midst of summer." I could go on with undeniable evidence that bees, as Mr. Train writes me, can breed hivefuls of bees while in confinement, without becoming loaded with fecal matter. Some may wonder how this agrees with "the pollen theory." Let me quote from Prof. Cook, dated March 3, 1885 : "The fecal mass is mostly in the intestines ; sometimes it is so abundant as also to crowd the true stomach. It is not likely that the alimentary canal back of the honey-stomach, and true stomach, are ever used to form the larval food ; I think not, back of the sucking or honey stomach. If the pollen is used up for larval bee-food, it could not appear in feces." Let us all thank the Professor for setting us aright in this respect. I again quote from him relative to something closely connected to the above : "There is no foundation in the dry-feces theory, I am sure." Again : "Bees do not normally void feces in the hive, and never dry feces."

"The pollen theory." What is it ? I fear that many do not yet understand what I mean. As I have before stated, my experience with hundreds of dead colonies caused me to suspect that the cause of the disease rested in the food, but "how," was the question. I had unmistakable evidence that the trouble was not with fall honey, thin honey, sour honey, uncapped honey, or honey from any special source. I called to mind the fact that honey was a highly oxygenized food ; that pollen was as highly nitrogenized ; that these two greatly varying substances so radical in their elementary principles, were the only food for our bees, and how well the one fitted the confined state of the bees while the other equally served their demands while growing or repairing the waste of tissue caused by exertion. I also remembered how utterly unfit was either one to serve the purpose of the other. I then grasped the idea that possibly the consumption of nitrogen in confinement was the cause of all the trouble, and that this element was taken when the bees consumed honey (by way of its floating pollen), or in much greater proportion when they consumed bee-bread. I put this forth as a theory only, hoping that a discussion upon it would lead many others into the investigation. As time passed, and opportunity offered a partial test, more and more favorable the theory appeared. Last winter has given us a chance for fully testing this, as well as other theories, and what follows, I think should settle the question. I can see very little room for error. I am quite willing that that "little" should be used for further argument.

As bearing favorable to the "pollen theory," I have given the condition of affairs in my two cellars. I will now state how matters stand with the out-door colonies of this same home apiary. I had 49 colonies, each on 6 American frames with combs, in tenement hives, that in summer contain 19 combs, all resting horizontally. On either side of the 6 combs and bees was a 2-inch chaff, cloth-sided division-cushion ; over all, in the upper story, was a large chaff cushion about 6 inches thick. These hives were painted white, and rested high, so that they were above the most of the snow. Twenty-five of them contained no honey, and only a cell of pollen here and there, and well supplied with sugar syrup ; 24 contained a little honey and bee-bread, and all the rest of the food was sugar syrup. I had no idea of losing any of these colonies, but in this I was in error, for every one is dead. Among the 25 there is scarcely a sign of disease ; the combs are clean and nice. Among the other 24, there is occasionally symptoms of diarrhea, here and there, but nothing to amount to anything. I have had colonies show many times more symptoms of diarrhea and survive, and come up strong for the June honey harvest. None of these colonies died of diarrhea. Of what did they die ? Cold, too long continued ; and those in the old, cold cellar did the same. But how in a cellar ? Cold is a giant in a cellar. Why ? Because it continues ; there is no ray of sunlight, no immediate raising of temperature, or chance for the bees to change position. What degree can bees stand ? That depends upon the duration. Here is the great point that too many of us have overlooked. Forty degrees below can be endured for a short time, but 10° to 15° above, will kill bees if continued, diarrhea or no diarrhea. In this point I have been in error.

In this same yard stands 17 colonies down lower and warmer packed than the 49 just referred to, all being on full natural stores of honey and pollen, and in the regular 8-frame Langstroth hives. All are dead except 5, and probably not over 2 or 3 of these will survive. All of them had diarrhea badly. Not until we could remove bee-diarrhea, could we get a clear view of any other causes which might result in the death of our bees.

Just to the left stands 73 colonies packed just like the above 17; these had little pollen in their combs, and stores of a mixture of sugar and honey, just the same as the 10 referred to in the new, damp cellar. They, like the 17, are low down, and were pretty well covered with snow during the severe weather. Of these 73 colonies, 5 are dead, and 2 more show signs of diarrhea. All the rest appear free from disease, and are quiet and in good numbers.

Of my out-apiary of 208 colonies, all packed, and all on natural stores, but selected combs (as free from bee-bread as we could conveniently choose), I think at least one-half will die, some of diarrhea, and some of cold with no diarrhea.

But let us go farther. Not satisfied with this, I began sending specimens of excreta to Prof. Cook. The first specimen was excreta from a radical case of diarrhea, with bees all dead, one among the eight which died in the new cellar. I also enclosed some pollen from the comb contained in the frame from whose top-bar I took the excreta. The Professor answers as follows: "I have subjected the pollen to a very careful examination with a one-sixth objective. I find several kinds of pollen grains, two of which are by far the most common. One is oval, rather pointed at the ends with a longitudinal slit and numerous projections; the other is globular and thickly set with projections much like those in the other. I then studied the excreta, and had some one else made the change, I should have stoutly maintained that the objects were the same that I had just studied. The kinds of pollen were exactly the same in style and markings. The pollen you sent had been liberally appropriated by the bees whose excreta you sent."

I will here state that no attempt at breeding had been made by this colony. I will quote from another letter from Prof. Cook: "I went to a neighbor's bees, all of which are dead, and I took three with long, black, turgid bodies and dissected out their alimentary canal as before. The stomach and intestines were fairly bursting with repletion; slight pressure sent the black, odorous excreta flying. This was almost one exclusive mass of pollen-grains held in a watery mixture."

I will now try to make clear the course which will successfully winter our bees with certainty, and preface it with some observations and conclusions formed by myself and others:

1. Ventilation: Prof. A. J. Cook writes to me as follows: "Bees certainly use air all winter, if wintering well; very little will do—perhaps simply what is in the hive, but unless they are kept very quiet, they would need more." Mr. Shirley tells me of an instance of his observation, where a former neighbor of his determined to smother some colonies of bees to get rid of them and to get the honey. With moist blue clay he hermetically sealed the hives, and left them for so long a time that he concluded that the bees must be dead, but when the hive was opened, to his chagrin, they were not only alive, but showed no signs of any ill effects. This was in September. A recent letter from Mr. Boomhower contains the following words which exactly accords with my observation and experience: "All ventilators to bee-cellars are a damage and amount to nothing. This has been proven to me over and over again."

When I built my new cellar I had a splendid site for the easy construction of sub-earth ventilation, but as I had no proof of any sort to warrant one dollar's outlay in ventilators of any kind, I wanted some, before going ahead. I decided to seek it by corresponding with three men whom I thought stood at the head in the departments of science, theory and practical success as related to apiculture; viz: Prof. Cook, Mr. S. Corneil, and Mr. E. J. Oatman. Each one of these gentlemen gave what I fully believed to be his honest convictions upon the subject. After weighing them carefully, I could find no argument that caused me to prepare any system of ventilation, and now I am very glad that I saved all expense in that direction. I am firmly convinced that no ventilation whatever is needed in a bee-cellar.

2. Temperature is the point upon which much hinges—the point where many of us are still making fatal mistakes. Mr. Boomhower says, "45°;" and Mr. H. V. Train says, "45°, and in the spring it may run up to 60°."

But I think that I hear some one say, "Won't they get uneasy and noisy when the temperature is so high?" Yes, but you have been accustomed to associate noise and uneasiness with disease, where such disease was the cause of such noise and uneasiness; but these effects are sometimes produced by other causes, and in that case will not themselves become a cause of the disease.

I am now talking of just what I know from my experiments this year. Mr. Train avers that this high temperature, later in the season, is accompanied with breeding, in his location, and his only trouble is that he has to give each colony a tablespoonful of water daily, or they will fly out of the hives (evidently in search of it) and fall on the cellar bottom, never to rise. He says that water prevents all of this. Such testimony is evidence enough for me. He further says that early breeding is objectionable, and he wishes a way to avoid it and its consequent labor.

But where does the pollen theory stand in this problem? Just here. As the diarrhetic excreta is pollen, you may know some neglect or violation of rules which I shall lay down for successful certainty in wintering, have caused the bees to eat pollen.

My opinion is, that when the temperature falls below a given point, in the hive, the bees add to the heat-producing method of consumption of oxygenized food, that of producing heat by exercise, and this exercise necessitates waste of tissue, and this, the consumption of tissue-making food (nitrogenous food), bee-bread. By careful examination I have found that in cases where I fed sugar syrup in dry, clean combs, and left these colonies exposed to the severe cold of the past winter, that in every case where there was just a cell of bee-bread here and there which was overlooked or trusted with the bees, they have emptied every one within their reach. I assert the following, being fully persuaded that future discoveries will bear me out in the assertions:

1. If colonies of bees are kept in a room whose temperature never goes below 45° (in some cases I might put it lower), they will not take bee-bread into their intestines, whether they use it for making chyme or not.

2. If the honey which the hives contain is of good wintering quality, that is, very free from floating pollen, this will be all the precaution necessary to insure safety. But, if on the other hand the oxygen stores contain a goodly quantity of nitrogen, via floating pollen in the honey, the bees may have the diarrhea, and this is the reason that disease has been experienced in warm cellars. If the pollen is diffused throughout the honey in considerable quantity, it will get into the bees' intestines and accumulate in larger quantities than the bees can hold, and their instincts to do this will cause the disease.

To all who believe the above, is it not clear that just two conditions need close watching and enthusiastic cherishing; viz: sugar syrup stores and a temperature of from 40° to 45°? Sugar syrup is now cheaper per pound than liquid honey, and as a bee-food it goes farther, as it contains heat-producing elements to a greater degree than honey, and enough less nitrogen than the best of honey, that I believe the bees will come out in the spring in a more vigorous condition than those wintered on honey and in a manner called "successful." As I have before written, I am satisfied that what is called "spring dwindling" is contained diarrhea, and so the less bees spot their surroundings on their first flight, the more old bees may we have when we can boast of 40,000 new ones per colony. I notice that as we move northward we find the honey clearer, and fecal accumulations less, according to the duration of confinement.

If pollen had not been a main factor in the cause of fecal accumulations in bees, the whole problem would long ago have been settled. It is now practically settled with me, even if some of the minor bearings are still not quite clear. If I am mistaken, I shall again lose my bees. Let us see.

The natural inquiry now is, what is the best, most practical and cheapest method of changing the winter stores of bees. Knowing by experience that sugar syrup is cheaper and safer than honey as a bee-food, I have for three years been experimenting on the best means of accomplishing the above-mentioned change in the stores. I have reduced to practice a simple system of manipulation that accomplishes the desired change to my satisfaction, without cost, danger, or the trouble of even opening the hives, to say nothing of the almost impractical method of late extraction; and I will detail it in due time, feeling sure that it will meet with favor by all practical honey-producers. Avoid low temperature and nitrogenous food, and success is certain.

Dowagiac, Mich.

For the American Bee Journal.

The Use of Drone-Traps.

HENRY ALLEY.

In their article on page 165, Messrs. Dadant & Son seem to entertain the idea that a drone-trap has no other uses than that of catching drones, when, in fact, that is one of its minor features. They say: "To begin with, let us state, that in bee-keeping as with every business, the aim ought to be to secure the largest result, with the least labor and expense." This is just the view that I took of the matter, and hence the invention of a drone-trap as a labor-saving implement in the apiary. Perhaps Messrs. Dadant & Son could do with fewer men in their apiary if they used the drone-trap, as I will endeavor to show.

They say further: "Mr. Alley does not seem to be in the habit of replacing in his hives the drone-comb by worker-comb, for he writes: 'Would it not be a pretty job to go over 100, or even 50 colonies of bees and cut out the drone-comb and fill the places with foundation?'" The very reason why I made the remark was because I supposed that every reader of the bee-papers had read many times that drone-comb should be cut out, and, to prevent the bees from building more in the same places, a piece of worker brood-comb should be inserted in its place. I have practiced the same thing for 27 years, and a long time before foundation was thought of.

Again they say: "Our instructions to our men are, as soon as they detect some drone-comb in a hive, to put it at the outside of the other combs, so as to have it on hand when preparing bees for winter, or at the spring visit." How many of the 150,000 bee-keepers in the country can afford to employ men in the apiary? All bee-keepers are not situated as the Messrs. Dadant & Son are, and as they cannot afford to employ help to destroy the drones or drone-comb, the next best and practical thing is a drone-trap, the use of which might save the wages of one or more men during the season. They also say: "Sometimes when a queen is old or sick, or when she lays her first eggs, she lays drones in worker-cells; but the small drones reared would pass through the holes of a drone-trap." I will say that drones reared in worker-cells, whether the eggs are from a barren queen or a fertile worker, are worthless so far as fertilizing a queen; therefore if such drones do pass through the trap, no damage will be done.

I believe as they do, that "the removal of drone-comb is worth many dollars to the bee-keeper;" I always recommend and practice it; but as to my being "reluctant about it," I will say this: I stated that "bees will rear drones when they need them," and the use of foundation will not prevent it, even when placed in the boxes or brood-frames. Now, let us see how it works: Last spring I wanted some Italian drones to use early in May. Mr. Pond wrote me that he had one fine colony which had plenty of drones in it, and the colony was sent to me. When it came, I examined the hive and found that the combs were all built on nice wired foundation, and the hive contained a large number of drones. They were reared in cells near the top-bars (I think a V-shaped top-bar was used), down through the bottom of the frame, and through the middle of the comb where the wire was pressed into the foundation. I will cite another case: A bee-keeper in North Carolina sent me 12 3-frame nuclei, and each one contained 3 combs of nice wired foundation, and in many of the combs were little patches of drone-brood right in the center of each frame, as well as considerable near the bottom and the corners.

The above may not be sufficient evidence that bees will rear drones when foundation is used, so I will give still another case: I received a 3-frame nucleus from a bee-keeper in Ohio, and I wanted this nucleus for a special kind of drones, and the combs containing drone-brood were built of worker foundation. Now, I most positively and plainly assert that bees will construct drone-cells by removing worker-cells or foundation when they need drones, though they say that they will not.

They also say that "Mr. Alley rears four kinds of bees in the same apiary;" so far they are correct, but if they intend it to be understood that I rear four races of queens, and have them fertilized in the same apiary, they have been wrongly informed. There are no bees within 6 miles of my apiary except what I own, and all the different kinds are kept by themselves, several miles apart. How could I keep the drones of all the four kinds from going into any of the hives, except by the use of a drone-trap?

One of the best things about the trap is, that such a large space can be given for ventilation, and still leave the hive protected from the annoyance of robber bees, toads or mice, as well as the bumble-bee and hornet which cause so much trouble to bees during the summer.

They say that "a few years ago, we had all pure bees; one of our neighbors brought, in May, 45 colonies of black bees to within 1½ miles from our apiary, and some of his thousands of drones met with our young queens." Now, suppose that the neighbor had used the drone-trap, as he might, had he known the benefit to be derived from its use, would they not have derived some benefit from it then? If the black bees were 1½ miles from their apiary, I do not believe that one in 100 of their queens would have met one of the black drones of the neighboring apiary.

In a recent number of the BEE JOURNAL I gave a practical, easy and quick way to Italianize an apiary where the trap is used. I will now give a few of the many good features which a good drone-trap combines, to prove that it is a great boon and aid to apiarists, and that the reasons given by Messrs. Dadant & Son are founded on mere theory.

The drone-trap is not a "nuisance:"

1. Because it effectually entraps and destroys every drone.

2. Because a hive can be more easily and better ventilated when the trap is used than by any other method, and it will not be necessary to raise the hive from the bottom-board or move the boxes back; and all hives can be ventilated at the entrance—the proper place.

3. Because queens can be mated by the drones from any colony desired, and fertilization is completely under the control of the apiarist.

4. Because when a swarm issues the queen will be entrapped and returned to the hive, and there is not a case on record where a queen was ever injured under such circumstances; and no queens having defective wings will be lost in the grass, as is the case often when a swarm issues.

5. Because the trap can be placed at the entrance of any hive, and the bees will not be in the least annoyed thereby, as it does not prevent them from passing out and in freely; and, if placed on the hive at night or early in the morning, the bees will mark the location, and not one will enter a neighboring hive.

6. Because the trap, when placed on the hive, needs no attention oftener than once a month.

7. As the first cost is comparatively nothing, and the advantages gained each season by using them, are worth many times the cost.

8. Because they are a sure protection against the enemies of bees, and a great protection against robbing.

9. Because the apiarist, when he desires to go from home, can do so with no fear of losing his bees in case a swarm issues, as the bees will return to the hive in a short time.

10. Because the apiarist is not obliged to go up into a tree 30 or more feet to secure the bees when they swarm; and for this reason old people, whether men or women, can keep bees and not run the risk of life or limb to hive them in such a case.

11. Because if the apiarist is busy at work and the bees swarm, he will not be obliged to run at once to hive them, but can act at his own pleasure about it.

12. Because a colony when it issues can be compelled to settle just where the apiarist desires them to.

13. Because when placed at the entrance of a hive wherein a swarm has just been placed, the bees cannot decamp to the woods.

14. Because when a swarm issues, the bees can be easily and quickly hived by removing the parent colony to a new location, and placing the new hive on the old stand, when the bees, missing their queen, will return and enter the new hive, and all trouble is ended, as soon as the queen is liberated.

15. Because if one desires a few fine drones from a distant apiary for experiment, he can place a trap at the entrance of a hive, and in an hour have several hundred of the desired drones.

16. Because the trap is a perfect non-swarming arrangement.

I might extend this list of reasons, but let this suffice. The readers now have both sides of the trap question, and I will leave them to judge as to its being a nuisance.

Wenham, Mass.

For the American Bee Journal.

The Season of 1884.

J. M. HAMBAUGH.

The season of 1884 was one of cold comfort to the bee-fraternity in this section, especially back from the river bottom where the prairie bloom was not accessible. The bees built up early, and made a fair showing of success, but this fair promise was of short duration, their labors ceased with the clover harvest, and a very small part of the colonies stored sufficient to last them through the fall and winter; hence, many bee-keepers were compelled to feed through the fall in order to keep them from starving, and where this was neglected, the bees went into winter quarters in bad condition to withstand the rigors of the past long, cold winter, and that coupled with bee-diarrhea, which has been very prevalent throughout the country, has played sad havoc among the bees.

As to my own experience during the past season: I began the season with 55 colonies, 23 of which were set off and prepared for the production of extracted honey, and the balance for comb honey. I had to transfer all of my colonies from 8-frame hives to 10-frame ones, and alter every frame, as they had been made nearly ½ of an inch too deep; this was to make a uniform frame throughout the yard, and to meet the exact standard dimensions, 17⅝x9⅛ inches; to do this I, of course, had to furnish every hive with two extra frames filled with foundation. The 23 colonies were prepared with a second story, the dimensions of which were exactly the same as the brood-chamber, with ten frames wired and filled with full sheets of foundation.

All the colonies built up very rapidly, and appeared to be none the worse off from the transferring, which was done prior to fruit bloom, and before the white clover harvest came in the hives were overflowing with bees, ready to improve every opportunity. The surplus arrangements were put on about May 20, and to cause the bees to enter the upper story more readily, I put a frame of brood from below into the upper story, which insures their acceptance of the situation. For comb honey, I use the "tiering-up" system with skeleton honey-board, etc., inside of an upper story, the same as for extracting; by this means I can use the half-pound, one-pound and two-pound sections in the same hive, and can utilize the same hive for extracting, with the standard-size brood-frames, the advantages of which are obvious.

During the season I extracted at four different times, and from the 23 colonies I obtained 2,390 pounds of extracted honey; and from the balance of the apiary I secured about 1,600 pounds of comb honey in one-pound and two-pound sections, making my total harvest nearly 4,000 pounds. I also increased my apiary to 61 colonies by natural swarming.

Have I not done pretty well? My neighbors look upon my figures with an incredulous eye, especially when they reason that very few bees in the country have furnished sufficient honey for family consumption. Finally the stale accusation of adulteration has been sprung, and the wiseacres are happy. The mystery is solved. Hambaugh has been stuffing his bees—feeding them sorghum molasses and cheap Orleans sugar! I am glad to say, however, that the better class of citizens know this to be false, yet it has had its effect upon the market. I was foolish enough to put some honey on the market in the early part of the season, which was gathered from honey-dew, which damaged me, and gave the slanderers some room for their wholesale accusations.

I bought quite a number of colonies of bees during the summer and fall, and I had 87 colonies to put into winter quarters; the most of them were kept in a house constructed of corn-fodder, straw and prairie hay. Signs of bee-diarrhea were prevalent in December, and on Jan. 5 the bees had a flight, after which I again put them into their winter quarters. The flight helped them, but it was not long ere the same restless spirit prevailed, and this, added to the intense cold weather through January and February, has proven very disastrous. Twelve colonies out of the 87 are already dead, and several more are likely to die. I put them upon the summer stands on Feb. 27, and the foul odor from their discharges was sickening. We have had several days of warm sunshine of late, throughout this section, which has helped the bees very much, yet there seems to be great losses of bees in this part of the country.

Spring, Ills., March 5, 1885.

For the American Bee Journal.

Not the Way to Argue.

WM. F. CLARKE.

I have been hoping for sometime that Prof. Cook would be "inwardly moved" to express his views on the subject of hibernation. At length he has spoken, but so briefly and oracularly as to be exceedingly disappointing. In Query No. 13, I find the following: "Prof. A. J. Cook remarks thus: 'Bees never hibernate.'" I have characterized this utterance as brief and oracular. A very slight addition to it would have greatly improved it. If the Professor had said, "I think," or "in my opinion, bees never hibernate," I would not have had a word of fault to find with the style of "remark." But it is as if an oracle had spoken!

Prof. Cook is an authority both on entomology and apiculture, and a very high one, but an oracle he is not. We do not have such in this day and age of the world, on any subject in regard to which there is room for holding honestly differing opinions. If a man dissents from any view of mine, I am glad to have him express his dissent with the reasons for it, but I do not want him to come at me with an air of infallible wisdom, as if the matter were settled for all time and for all eternity. If he does, I shall rebel, as I am now doing. Self-respect compels it. No man holds Prof. Cook in higher esteem than I do, but I must enter a protest against this method of dealing with any subject of debate among intelligent, thinking, and independent-minded men.

In the very next column, on page 85, Mr. E. B. Southwick uses the same language: "Bees never hibernate." Gentlemen, this kind of talk won't do. It is not becoming. The modesty of true science, as well as the courtesy we owe to those who differ from us, forbids it. I have before me at this moment, two scientific works. One says: "Hive-bees probably do not hibernate." The other says: "The common hive-bee is probably never, strictly speaking, torpid, though with regard to the precise state in which it passes the winter, a considerable difference of opinion has obtained." I commend these examples to Messrs. Cook and Southwick, hoping that they will "amend the record."

Prof. W. F. Kirby, one of the most eminent of living entomologists, referring to the phenomena of hibernation, observes: "Every gradation may be met with between ordinary sleep, the imperfect or abnormal hibernation of some animals, and the profound hibernation of others, in which all the functions of life are suspended." I have never claimed that bees go into a state of "profound hibernation," but only that they experience one of its "gradations." It may be a very imperfect degree of hibernation that they experience, but that they fall into a state similar in some respects to it, I do not think Prof. Cook will deny. It has been proved beyond successful contradiction, that there is a reduction of vitality, a suspension of activity, a species of torpor, a very slight exercise of certain natural functions, exceedingly small consumption of food, and if any discharge of feces, only in the form of a minute powder. By the way, Prof. Cook is reported to have said at the Michigan State Convention, that it is absurd to suppose that bees discharge dry feces during the winter. If they do not, then they must retain in their bodies the excremental remains of what food they consume during the months of their winter imprisonment in cellars and bee-houses. I might call this absurd, but instead of so doing, I will take it as an admission by Prof. Cook of one of the phenomena of that state into which he affirms they "never" enter.

I am not contending for the use of a particular word. "For names and forms let graceless zealots fight." But if "bees never hibernate," what is it they do when they relapse into comparative quiescence, eating so little honey that 2 or 3 pounds have sufficed for the use of a strong colony during the entire winter? If hibernation is not the proper term to designate this condition, what is? The only other word I know of which is employed by scientific men to designate a similar condition, is "æstivation," but that applies to summer, and not winter torpor. It seems that certain animals have a fashion of drowsing away the hottest period of the year, as others are wont to do the coldest.

Perhaps it would be well to coin a word, now that among other things we are trying to settle a correct nomenclature of bee-keeping. If hibernation is open to any serious objection, or a better word can be found to express the idea, all right. Let us have a preferable substitute. "What's in a name?" "A rose by any other name would smell as sweet." But the *thing itself*—the state of quietude, torpor, or semi-torpor, into which bees are wont to subside when the surroundings are favorable, which render them contented and comfortable with small rations, and brings them out of winter quarters bright, clean, thrifty and vigorous—it is the "*how*, *why* and *what*" of *that*, which I am after, as the key to the winter problem. That this *is* the key, I have no doubt whatever, at the present time. If "bees never hibernate," they do something which I have called by that name for want of a better, but if Prof. Cook or any one else is prepared with a better name for it, a name which all bee-keepers will accept as indicating *the thing*—let us have it right away. The only substitute I have met with, as yet, is "Clarke's Rheumatic Dream," but I cannot say that I have fallen in love with *that*, because I deem it a reality.

Speedside, Ont.

For the American Bee Journal.

The Arrangement of Hives.

C. M. HOLLINGSWORTH.

There are several considerations of economy, convenience and protection to the bees to be looked to in the method of placing hives in an apiary; and some suggestions on this point may be of value at this season of the year.

Last year, with 150 hives in two apiaries, I adopted a method of arrangement which I have never seen recommended nor mentioned by apicultural writers, and which, I think, possesses a number of decided advantages. The hives were placed in pairs, the two hives of each pair being very close together on a common stand, and the pairs arranged in regular rows at what I deemed sufficient distances apart each way. The advantages of this arrangement are these:

1. In the matter of identifying their own hives, I found, as I had expected, that the bees are not at all likely to make the mistake of going into the wrong hive of the pair to which they belong. This was plainly seen when a swarm which had issued, after circling awhile in the air, would return without clustering. The most of the bees would go back to their own hive, but in the confusion some would go wrongly; but they always went to the corresponding hives of other pairs near by, and not to the

wrong hive of the same pair; and, indeed, there is little more reason why they should make this latter mistake than that they should forget in what part of their own hive the entrance is situated. Thus it will be seen that pairs of hives may be placed as near together as single hives, without trouble arising from bees mistaking the hive to which they belong. This gives a great economy of the ground occupied by the apiary, and of the travel required in working in it.

2. A stand can be as easily made for two hives as for one, and will be more stable. I use Langstroth hives, and my stands consist of four wooden stakes driven into the ground, leaving 6 or 8 inches projecting, thus forming a rectangle about 15 inches by 3 feet, and with two 4-foot pickets nailed against the sides of their tops. Across the pickets the hives are placed, the front picket being an inch lower than the back one. By the use of a level, and by lowering any of the stakes that may need it, after they have been driven in by guess, a stand of this kind is easily made of any desired height, made perfectly level laterally, and having any desired pitch from rear to front; and it will remain true without any further attention throughout the season.

3. The placing of hives in pairs greatly facilitates the protection of their contents from both heat and cold. My hives have the ordinary Langstroth cap, and I use the Heddon cases as supers. When the heat of summer comes on, by simply taking out one side of each cap, and putting the cap on each hive with the open side toward its companion hive, very efficient protection is afforded to the cases both from too great heating by the sun in the day-time and too great cooling by radiation at night, or on cool, cloudy days. The inner sides of the cases and caps of each pair of hives protect each other in both these ways, while there is a chance for sufficient circulation of air around the cases to moderate the heat of the sun at mid-day. When more than one case is on, if the honey-board has no cleats to serve the purpose, it is a little better to have cleats or nails driven part way in, on the under side of the top of the cap, to support it a little above the honey-board, giving an air-space between. The remaining three sides of each cap give protection to the outer side and ends of the case over which the cap is placed, or to the upper case and the upper part of the next one beneath, where there is more than one case on. The removed side of the cap can be made to serve a useful purpose by leaning it against the outer side of the hive, resting on the ends of the picket supports; and in the fall it may be partially nailed in its place on the cap to give better protection to the top of the hive. This modified cap is easily and quickly slipped off and on horizontally, or nearly so, thus avoiding the objections to the telescoping arrangement: and it requires no weight on it to keep it from being blown off by the wind, as the open side is always sheltered from the wind. It has this further advantage over the wide shade-board held in place by a heavy stone—by inverting it upon the ground, one of its corners affords a narrow support on which to place the cases, without danger of crushing many bees, while working in the brood-chamber. The placing of hives in pairs also gives similar advantages, and especially a great saving of material in the protection of the bees from cold by packing around the hives, etc., in the fall, winter or spring. By packing well the small space between the hives and putting a single close division-board in the outer side of each hive, better protection is afforded than two division-boards will give in a single hive standing alone, and this is all that is needed for fall or spring, where bees are wintered in a cellar. Where they are left out through the winter, by also packing the space under the hives, putting stakes, or stakes and boards, near the back end of each pair and filling in with straw, and putting a few inches of chaff or leaves in the caps, very nearly an equivalent of the very best chaff hives is secured for wintering with very little labor and expense, and with the use of a comparatively small amount of packing material.

4. With hives in pairs, as free access as there is any need of may be had to every hive; while in working with any hive its companion hive is a handy stand on which to place the requisite tools. I find a wooden tray, made of a honey-board with a narrow rim nailed on around its edges very convenient for carrying smoker, smoker-wood, screw-drivers, jack-knife, etc., around in the apiary. By tacking some yielding supports on the under side of this, such as a small roll of cloth near each end, it can be set on the top of a hive, and articles taken from it and put back upon it, without jarring the hive enough to disturb the bees.

It will be seen that all the advantages which I have here specified, resulting from the placing of hives in pairs, are such as tend to simplify and minimize the work required in attending to large apiaries.

Winnebago,♁ Ills.

For the American Bee Journal.

Bees and Clover.

C. M. WEED.

Darwin and other eminent observers have repeatedly demonstrated that the flowers of most plants must be cross-fertilized with pollen from flowers of other plants of the same species, to produce the most and best seed. Repeated experiments have been made to determine whether seeds would form without this cross-fertilization, and the result has usually been that very few or none have set; especially is this true of our common red clover which is, as a rule, fertilized, or pollenized as some would have us say, by bumble-bees. All are familiar with the oft-repeated tale of the introduction of bumble-bees into Australia, in order that clover seed might be produced there instead of importing it annually. Much the same effect has been observed in certain portions of our own country respecting the introduction of Italian races of bees. The tongues of these banded foreigners being longer than those of the native blacks, they could reach the nectar at the base of the clover corollas, and as a consequence they foraged upon it and aided the bumble-bees in their work of cross-fertilization.

Rev. L. L. Langstroth, so fittingly called the Father of American apiculture, once told the writer that about Oxford, Ohio, the area over which the Italian bees foraged was plainly indicated by the increased production of clover seed.

A few years since, Dr. W. J. Beal, who introduces his students every year into the great fields of original investigation, requested some of them to investigate the comparative number of seeds set by clover with and without the presence of bees. In one of these instances eight heads which had been protected from insect visitors, yielded only five seeds, while eight neighboring unprotected heads yielded 236 seeds. Other experiments pointed to the same conclusion. The Doctor, in referring to the subject in one of his public addresses, said: "These experiments, with those of Darwin and others, make it appear as though bees helped to fertilize the flowers of white and red clover, and cause the plants to set seeds more freely. If bumble-bees do more good than harm, as we have very good reason to believe, we should encourage their production. Bumble-bees prefer the old nests of meadow mice. It has been suggested that we should not keep cats nor allow hawks, foxes and dogs to catch these mice, which make nests so necessary for the bumble-bees which help fertilize our red clover."

If this be true, should not the howl of discontent so frequently raised against apiarists, by some farmers and fruit-growers, be speedily silenced? These persons claim that the bees in foraging on their lands steal the sweets from their crops without any recompense; but they do not realize that in the very act of the so-called theft, the bee repays them a thousand times for the paltry sweet which nature has placed there for this very purpose. At the recent meeting of Illinois horticulturists, it was stated that one of the most prominent fruit-growers of the State considered the presence of bees essential to a full crop of fruit, and many present coincided in the opinion. Would those worthy agriculturists whose indignation rises apace at the fancied loss imposed on them by their neighbor's bees, prefer to have their meadows over-run with meadow-mice to furnish breeding places for bumble-bees, that would certainly trouble grazing cattle nearly as much as would the imported Italians?

Chicago,♁ Ills.

☞ The Mahoning Valley Bee-Keepers' Association, will hold its next meeting at Newton Falls, Ohio, on Thursday, May 28, 1885. E. W. TURNER, Sec.

For the American Bee Journal.

The Origin of Honey-Dew.

CHARLES SAMSEL.

On page 139, Mr. Kemp asks me to explain how honey-dew gets *into* the leaves of some plants and trees. This I answer, Yankee fashion, by asking other questions, viz: How does blood get into our system? How does the milk get into the cow? How does nectar get into flowers? Answer—Not by absorption; they are the result of the wonderful chemistry of nature. All plants and trees contain more or less sap, some is sweet, some sour, and some insipid; when the sap flows—it often overflows, thus running down the trunks of trees; all the gum-resins exude spontaneously from trees, some are very odoriferous, and we frequently find sweet moisture on leaves, where no *aphidæ* are visible, this may be expelled through the pores of the leaves, as sweat from the human body.

Mr. K., in support of his saccharine-condensation theory, cites the aroma from the sugar-camp, the coffee-pot, the cabbage in the dinner-pot, and the fragrance of the rose, and leaves us to infer that these aromas are condensed and absorbed by plants.

Aroma is a term employed to designate those substances, the extremely minute particles of which are supposed to affect the organ of smell so as to produce particular odors. The particles diffused through the atmosphere and affecting the olfactory nerves—if the theory of particles of matter so diffused be correct—must indeed be extremely minute. These odors have been generally supposed to depend upon essential oils.

Scientists tell us that odors of flowers do not, as a general rule, exist in them as a store, or in a gland, but are developed as an exhalation. While the flower breathes, it yields fragrance; but kill the flower, and fragrance ceases. It seems then that odors are simply exhalations dependent—possibly all—upon essential oils, not upon vapor impregnated with matter, and cannot, therefore, be condensed as such, and we have yet to learn that these exhalations are visible or leave the least stains; and while it is well known that they combine with various fatty matter, they do not sensibly increase their weight or bulk.

If the aromas of which Mr. K. speaks, were like smoke, depositing carbon; or like steam, depositing water, when condensed, they would most likely form deposits upon other substances, besides leaves, but they are not analogous, the former being much too minute to produce those deposits which we style honey-dew.

As already stated, this honey-dew is either spontaneous exudation of vegetation, or is drawn from it by *aphidæ* and ejected as such. Many trees and shrubs—as admitted by Mr. K.—secrete sweet sap and furnish food for insects, etc. The sweet saps are absorbed by the *aphidæ*, and again ejected by them, falling upon objects within reach, usually upon the leaves of the plants which they infest, often upon those adjacent, and upon the ground. I quote the following from Messrs. Kirby & Spence's Entomology: "This fluid, which is scarcely inferior to honey in sweetness, issues in limpid drops from the abdomen of these insects, not only by the ordinary passage, but also by two setiform tubes, placed one on each side, just above it.

We all know that the bee does not make honey, but simply gathers it from flowers; when it obtains its sweets from sugar, it deposits sugar, not honey. The value of honey-dew to the bee, therefore, depends upon the source whence the *aphidæ* obtain it. Much more might be said in refutation of the saccharine-condensation theory, based upon sound scientific principles, but as nothing very satisfactory has yet been shown in support of it. I deem it unnecessary."

Easton,○+ Pa.

For the American Bee Journal.

Planting for Honey.

C. H. DIBBERN, (200).

Just now it seems that our leading bee-masters are much interested in the discussion of their "pet theories." One insists that it is all "pollen," another "hibernation," and a third "continuous passage-ways," while a fourth declares that the brood-combs must be tipped upside down, or the bees will pay no profit. All these questions have caused a great deal of thought among intelligent apiarists, and will doubtless lead to some good; but most of us, however, who keep bees for the money that there is in it, have not the time nor patience to pick the pollen out of brood-combs, that the foolish bees will persist in bringing in, to their own injury; or to be continually "tilting" the combs or watching the bees through the long winter to see if they really "hibernate." What we want to know is, how to produce the most honey of the finest quality, and in the best possible shape. Many of us know how anxiously we have watched the last few days of the white clover and linden honey-flow, and how we have looked about us in vain for something to take its place, as the last few blossoms dried up. Ordinarily a season of five or six weeks follows when the bees have nothing to do but cluster idly about the the fronts of the hives, leaving great numbers of sections only about half finished, to be completed in the fall with dark honey which finds a poor demand at a low price.

It has been my study for many years, how it would be possible to prolong the period of the white honey harvest. Some fifteen years ago, while musing on this subject, my attention was drawn to a small patch of melilot or sweet clover, growing in a garden which I was passing. Seeing a great many bees working on it, I felt like shouting "Eureka." I did not then know what it was, but I gathered some of the seed and have scattered it in all out-of-the-way places ever since. I find, however, that it is difficult to get started where cattle are allowed to run; but not so with the Rocky Mountain bee-plant. Much can be done by utilizing all the waste places, but I have not depended on that alone. Last season I had about two acres of sweet clover adjoining my apiary, and while it was in bloom it was a beautiful sight. At one time fully one-half of my bees were at work upon it. This was at the most important part of the season, and the bees were enabled to finish many sections that would have remained only partially completed. It is plain that whatever we can add to the natural honey resources, must nearly all go into the sections or combs for extracting. Not so with the general crop; a great deal of that is consumed by the bees.

Now, as to the question, "Does planting for honey pay?" I can answer "yes." I am certain that ten acres of sweet clover would have been worth $500 to me last season. What crop is there that will pay better? There is also some demand for the seed, and if taken care of and advertised, it will pay all the expenses of cultivating. Then, too, the satisfaction of having the bees at work so industriously, and producing the snowy white combs, while they would otherwise be idle, or intent only on robbing, is worth something. In my opinion, planting for honey is the direction in which the greatest promise of success lies.

Milan,○ Ills.

For the American Bee Journal.

North Middlesex, Ont., Convention.

The North Middlesex Bee-Keepers' Association met in the Town Hall, at Park Hill, Ont., on Friday, March 20, 1885.

Messrs. D. A. and G. B. Jones were present, and answered numerous questions; the former also spoke at length on preparing honey for market. The discussions were both interesting and exhaustive, and embraced the usual subjects brought forward at conventions.

The election of officers resulted as follows: President, Mr. Frank Atkinson, of Ailsa Craig; Vice-President, Mr. D. P. Campbell, of Park Hill; Secretary-Treasurer, Mr. A. Humphries; Vice-Presidents for Park Hill, Messrs. Henry Phippen and Jas. Gray; and for Ailsa Craig, Messrs D. Norton and J. Allen.

It was decided to hold the next meeting at Ailsa Craig, Ont., about the middle of May, 1885.

D. A. STEWART, *Sec.*

☞ The second annual meeting of the Western New York and Northern Pennsylvania Bee-Keepers' Association will be held at Cuba, N. Y., on Tuesday, May 4, 1885. A very large attendance is anticipated, as the territory covered by this Association embraces many prominent bee-keepers. W. A. SHEWMAN, *Sec.*

SELECTIONS FROM OUR LETTER BOX

Report, from D. L. Shapley, Randallsville,⊙ N. Y., on March 28, 1885 :

I have wintered 22 colonies of bees, and I fed 130 pounds of sugar last fall. The last season was a very poor one in this locality; basswood did not blossom any, and all that the bees gathered was from white clover. The weather has been very cold, and there is much snow on the ground now.

Hibernation of Hedgehogs and Porcupines.—Dr. E. B. Southwick, Sherman,⟜Mich., in referring to an article on page 186, writes thus :

Chambers' Encyclopedia, in giving an account of the porcupine, says: "It burrows in the ground, and in winter it becomes torpid." Again, of the hedgehog it says : "In winter the hedgehog becomes torpid, retiring to some hole at the base of a tree, beneath roots, or in some such situation. It provides no winter stores, and no other British animal hibernates so completely." I have never heard of a hedgehog in this country. It is a small animal, only 9 or 10 inches long; but porcupines, which are from 2 to 3½ feet in length, are more plentiful here than the skunk or woodchuck, but they are not seen in winter unless found in their burrows.

Still Cold.—6—C. E. Miller, (76—65), Edella,♂ Pa., on March 23, 1885, writes :

My bees have been confined to their hives for 82 days, and still no signs of their having a flight. I have 20 colonies in the cellar, which seem to be all right, and perfectly quiet. Those which are out-doors are the ones that alarm me. I took a peep at some of them to-day, and I found that 2 of the number examined were dead. The most of them appeared to be all right, a few showed signs of diarrhea, and some had soiled the combs and the inside of their hives. It has been very cold here since Feb. 1. I think that the past winter was worse than that of 1880-81. On Sunday morning, March 22, the mercury was 8° below zero.

Wintering Bees.—Rev. J. Kearns, Morning Sun,⊸ Iowa, writes as follows on this subject :

The question of the safe wintering of bees has given bee-keepers more annoyance than any other one question. All plans have, in some localities and in some seasons, failed; the most imposing theories have proved more or less unsatisfactory. To this vexed subject I have given special attention for a number of years, and I have succeeded in managing my bees so that I am satisfied that I can winter them safely in any locality, and during the most severe winter. I put 2 colonies in one box with a porous partition between them, and from 3 to 5 inches of packing around and over them. The advantage of this is that of getting the heat of 2 colonies of bees together, and this, with good packing, makes the hive so nearly frost-proof that the bees lie quiet, even when the thermometer is 30° below zero, and a severe gale blowing from the northwest. I have tested this plan for five winters, two of which were exceedingly fatal on bees, and I have wintered some quite weak colonies with what I considered poor food, and yet I have never lost a colony since following this plan. The past winter has been the most severe one ever known in this locality—so say the oldest settlers—nearly three-fourths of all the bees in this locality being dead, and still I wintered 52 colonies without any loss, and most of them with the loss of comparatively few bees. These colonies faced the south, north and west, with the entrances fully open as in summer.

Report, from Charles Mitchell, Molesworth, Ont., on March 30, 1885 :

Mr. Doolittle's statement, on page 181, is the strongest that I have ever met with. Each winter I have about 15 colonies next to a fence, and I have yet to lose my first colony. There is generally 5 feet of snow over them, and the full summer entrance to the hive is given them, and a 3-inch cushion over the frames. I have about concluded that bees are pretty hard to kill, for out of 53 colonies examined, I lost only 3, 2 colonies having starved for want of winter passages, and 1 perished with diarrhea.

Bees Confined 120 Days. — Henry Alley, Wenham,♂ Mass., on March 26, 1885, says :

We are having warmer weather now, but not warm enough for the bees to have a flight. The bees in my bee-house have been confined for 120 days, but they are in good condition.

Careless Bee-Keepers., etc.—Robert Corbett, Manhattan,♂ Kans., on Mar. 28, 1885, says :

On account of having been sick from Feb. 1 until March 10, I think that I have lost quite a lot of bees for the want of attention. I have lost 2 nuclei with valuable queens, and 6 colonies, 4 of which were lost on account of robbing and loss of queens. The loss of bees in this locality is great, being about, I should think, four-fifths of all; and I may say, through carelessness. There is about 2 inches of snow on the ground, and my bees are still shut up. I would like to know why it is that one of two equally strong colonies in one location, during a certain season, will produce 100 lbs. of honey, while the other will produce only from 30 to 50 lbs. I think that it must be that different colonies prefer different kinds of flowers. I have pretty thoroughly tested this during the past 3 years. In this locality, in dry seasons, the bees store a peppery kind of honey—so peppery that when one eats it, it burns the throat. It is unsalable and unfit to eat. In 1882 I had 2 colonies that stored this kind of honey while the remainder of the apiary (some 30 colonies) had none of it. In 1883 I had 3 colonies of this kind, and all the rest stored good, sweet honey; while the past season was such a poor one, and the bees were obliged to supply stores for their winter support, that all, excepting 3 colonies, worked on the iron-weed, and consequently what surplus they stored, was useless except for feeding back. I think that this tends to prove that bees prefer to choose the flowers upon which to work.

Report, from Wm. Dyke, Effingham,♀ Ills., on March 25, 1885 :

My 34 colonies have come through the winter, but they are a little weak. I have just finished moving them from my farm to my residence in town, and now that we have open weather I can work them up for the coming honey crop.

Visiting California Apiaries.—Mrs. B. Stover, Roscoe,♂ Ills., writes as follows :

Two years ago last December my husband and myself went to Southern California, where he hoped to spend a pleasant winter and visit some of the apiaries which he had seen described in the bee-papers; but the climate did not agree with him, and he gradually grew worse from the time of alighting from the cars in Los Angeles. We visited but one apiary, which was situated a few miles from Santa Monica; and, although it was during the month of January, it was as warm, and the bees were flying as lively as if it were the latter part of May here. Instead of returning in April or May, as he expected to attend to his own bees, he lingered along until June 7, and on June 9, I buried him in the Ojai Valley (15 miles from San Buenaventura), beneath the shade of the live-oak, and amid the ceaseless hum of the "busy bee," whose tiny music ever delighted his ear. It seems hard to dispose of his bees, and I shall miss them, as they have been a part of the family for the past ten years.

Report, etc., from J. W. Howell, Kenton,⟜ Tenn., on March 27, 1885 :

This has been a long, cold winter, but I have lost only 10 colonies of bees, and the remainder have been gathering pollen for two or three days from maple and elm, they being the only blooms that are out yet. Vegetation is at least one month later than usual. The bees are at work today. We only need good weather for awhile, when plenty of nectar for the bees to gather will be the result. There are those who think that bees may freeze and be all right by thawing out again, but like Mr. Anderson, page 188, I think that they will sometimes freeze, but after that they are of no value—only the hive and combs may be of service again.

Report, from F. W. Schafer, Eddyville,♀ Iowa. on March 24. 1885:

Bees in this part of Iowa have wintered very poorly. Last fall I put about 75 colonies into winter quarters, and I have lost 20 colonies; with the exception of 2 or 3 colonies, all died with the diarrhea.

Bees Flying Every Day.—Mrs. S. C. Tyler, Utica,♂ Mo., on March 29, 1885, says:

My bees are flying every day. They seem to be as busy as if the world was filled with blossoms, though they get nothing but pollen.

Hives and Separators.—J. H. Andre, Lockwood,♀ N. Y., writes thus:

Use a "Simplicity" or Langstroth body with a flat cap just deep enough to cover a thick cushion; make the half-story to fit the same as the full story "Simplicity." Put in cross partitions and use any size of boxes that you wish. If the lumber of the half-story is one-sixteenth of an inch thicker, it will make it a trifle smaller inside, and the boxes will not bind on the lower story when putting them on. I like this style of hive for the following reasons: As it has a flat cover the hives may be placed upon one another; the half-story and crate are one. One gets the full size of the hive for boxes instead of using the room for a crate; and if the half-story is not desired, it may be laid aside at any time. The hive takes up but little room for in-door wintering, which I consider much cheaper and safer than wintering on the summer stands. Separators may be dispensed with if the sections are not over 1¾ inches wide, if the sections are filled with foundation. Separators take up room, and there must be a space for the bees on both sides of them, instead of only one space where they are not used. The 4¼x4¼ sections will average about 14 ounces with separators, and about 17 ounces without them. A section 1⅝ inches wide will hold more honey without separators than one 1⅞ will with separators, and you get more sections on a hive, and the bees will work better and fill all of them more nearly at the same time instead of leaving some unfinished.

Lost Only One Colony.—D. R. Rosebrough, Casey,⊶ Ills., on March 17, 1885, writes as follows:

This has been a very severe winter on bees, and a great many bee-keepers have lost all that they had; one man told me that he had lost 37 colonies out of 42. I had 45 colonies last fall, and I now have 44 which are in good condition. I have some Cyprian drones flying. I never had so few bees die, as I swept up only about 2 gallons of bees and litter from the cellar floor. I do not see why my neighbors lost so many bees, and I none, comparatively, and when the bees had the same flowers to work on last season. I think that the secret is in the management. I use a one-and-one-half story hive, and I left the caps on all of them, laid 3 or 4 slats across the frames and spread oil-cloth over the slats, and packed over the oil-cloth with chaff cushions. Any time that I would raise the oil-cloth, the bees were all over the tops of the frames, and could move from one to the other just as they wished. I did not allow any snow to lie around my hives. The hives are made of 1-inch pine lumber, and they were left on the summer stands. I left all of the pollen in that they had stored in 10 Langstroth frames, and the bees reared brood all through January and February, and to-day there is lots of brood in all stages in the hives, and plenty of young bees, too. They will use a gallon of Graham flour a day. This winter my bees had the very best of honey to winter on. The bees that died did not have the diarrhea, for I have examined hives in apiaries where the loss was the heaviest, and there was no sign or smell of diarrhea, and the honey was bright and clean. Where the loss is the heaviest the bees were in box-hives, and the bee-keepers did not try to keep the snow away from them, and we have had some heavy sleets during the past winter. My colonies were well equalized last fall with bees and honey. There were 3 colonies that had nothing over them but the oil-cloth, and to-day they are 15 to 20 pounds lighter than those that were packed. I still think that pollen has nothing to do with wintering bees, for if they have good honey and proper care, they will come through all right.

Report, from Andrew Quist, Hokah,⊸ Minn., on March 30, 1885:

My loss of bees during the past winter is 9 colonies, 4 colonies being queenless and 5 having starved. I put 74 colonies into winter quarters last fall, and the 65 remaining colonies I think will come out in good condition. They had a good flight last week.

Bees in Good Condition.—F. R. Manning, Reynolds,⊸ Ills., on March 23, 1885, writes:

My bees are all in good condition so far. All except 10 colonies had a flight recently, and they were breeding strong, and some had capped brood. I have lost only 2 colonies this winter, and they were 3-frame nuclei. As many colonies have died in this section this winter as during the winter of 1880-81. Almost all of those colonies wintered on the summer stands have died. One of my neighbors has lost 25 colonies out of 40 that were wintered on the summer stands. What little I have used foundation, has convinced me that I can get straighter and nicer combs with it than without it. Last June I hived a swarm on 8 frames filled with foundation, on Monday, on Tuesday I put on 28 two-pound sections, and in 13 days after I put on the sections, I took off 17 two-pound sections filled and capped as nice as any I got during the whole season. They had the 8 frames filled with brood and honey, and then I put in two empty frames, and they filled them, and they did not work any more in the sections. When I packed them away in the fall, I took out those 2 frames, which contained as nice straight combs, filled clear to the bottom-bar, as I ever have seen, and the honey is as white as white clover honey can be. I am wintering my bees in the cellar with oat-chaff packed over the brood-chambers. I recently asked a bee-keeper how his bees were wintering, and he said that they had all frozen to death. I told him that they had starved to death, and by examining the hives, I found that there was not 10 pounds of honey in his 12 hives. Careless bee-keepers will lose hundreds of colonies. I have not fed my bees any yet, but perhaps I will have to feed some in the spring.

Not Discouraged.—I. A. Draper, Dawson,⊸ Nebr., on March 25, 1885, writes:

Last spring I begun with 15 colonies, and during the season I increased them to 29 colonies. The past winter being a very severe one, I have only 10 colonies left; however, I am not discouraged. As bees in this section did not produce much honey last season, I anticipate a good yield during the coming season.

Bees are Swarming.—J. Y. Detwiler, New Smyrna,⊙ Fla., on March 23, 1885, says:

Bees are swarming in some apiaries here. At 3 p. m. to-day the mercury was 60° above zero, with the wind from the north. Bees are inclined to be quiet.

Report, etc., from Chas. Harrold, (15—36), Hamburgh,♀ Iowa:

My bees are doing well. We have had a very cold winter, and for 34 days during December and January, it was continuously cold, and after that the bees had a good flight; then we had another cold wave for 12 days in February. The following is a description of my reversible frame which I prefer to any that I have yet seen: The top and bottom bars are made just alike, as are also the end-bars; bore 2 gimlet holes in each of the 2 end-bars, about 2 inches from their ends. The reversing device consists of 2 pieces of common fence-wire for each frame, which are put into the gimlet holes, then bent upward, parallel with the end-bars, and then horizontally outward from the ends of the top-bar, thus forming projections which rest on the hive rabbets. This style of frame is more easily made than the common hanging frame, and I find no objections to it in handling. In answer to Mr. S. Daniels (page 103), the man who could not find the queens, I would say: Put a drone and queen trap at the entrance of the hive, take out all of the frames, shake the bees in front of the hive, and then the queen may be found on the zinc after the bees have entered the hive. In Italianizing colonies, I never take the time to look up the black queens.

Almost a Total Loss.—Messrs. Chas. Dadant & Son, Hamilton,+o Ills., on March 28, 1885, writes thus:

Bees are in bad condition, but we are better off than our neighbors. The loss in this neighborhood is almost total; ours is ¼—the most that we have ever experienced.

Report, from Prof. A. J. Cook, Agricultural College,♀ Mich.:

Our bees seem to have wintered nicely. Thanks to a good cellar and little or no pollen. The bee-mortality in this State will be very great.

◆

Convention Notices.

☞ The Central Illinois Bee-Keepers' Association will meet at Jacksonville, Ills., at 10 a. m. on Saturday, May 2, 1885. WM. CAMM, *Sec.*

☞ The Spring meeting of the Cortland Union Bee-Keepers' Association will be held in Cortland, N. Y., on May 12, 1885. W. H. BEACH, *Sec.*

☞ On account of the prevalence of small-pox in St. Joseph, Mo., the semi-annual meeting of the Western Bee-Keepers' Association, will be held at the Court House, in Independence, Mo., on April 23 and 24, 1885. C. M. CRANDALL, *Sec.*

☞ The Northwestern Indiana Bee-Keepers' Association, will meet on Wednesday, April 8, 1885, at 10 a. m., in the Jury Room at the Court House in Laporte, Ind. A. FAHNESTOCK, *Sec.*

☞ The Union Kentucky Bee-Keepers' Society will hold their spring meeting in Grange Hall, at Eminence, Ky., on Thursday, April 23, 1885. All are cordially invited to attend. G. W. DEMAREE, *Sec.*

☞ The Progressive Bee-Keepers' Association of Western Illinois will meet in Bushnell, Ills., on Thursday, May 7, 1885. Let every bee-keeper who can, be present and enjoy the meeting. J. G. NORTON, *Sec.*

☞ The Willamette Valley Bee-Keepers' Association will hold its second meeting at La Fayette, Oregon, on the third Tuesday in June, 1885. All who are interested are invited to attend. E. J. HADLEY, *Sec.*

☞ The Wabash County Bee-Keepers' Association will hold its spring meeting in the Court House at Wabash, Ind., on Saturday, April 11, 1885, commencing at 9 a. m. All who are interested in bee-culture are cordially invited to attend. H. CRIPE, *Sec.*

☞ The bee-keepers of Portage county and vicinity will meet at Ravenna, Ohio, on April 24, 1885, for permanent organization. Let every bee-keeper be present. L. G. REED, *Sec.*

☞ The next meeting of the Union Bee-Keepers' Association of Western Iowa, will be held on April 25, 1885, at Earlham, Iowa. M. E. DARBY, *Sec.*

☞ The Texas State Bee-keepers' Association will be held on Thursday and Friday, May 7 and 8, 1885, at the apiary of Judge W. H. Andrews, at McKinney, Tex. All interested in the advancement of apiculture, are earnestly requested to be present and make this a memorable meeting of the Association. W. R. HOWARD, Sec.

Special Notices.

☞ We beg leave to inform our patrons and the public generally, through the BEE JOURNAL, that Mr. L. S. Hildreth has been admitted a partner in our firm, and the firm's name is now McCaul & Hildreth Bros. Our stock now is light, and from the present outlook, we will be able to close out our present stock of the 1884 crop, before the warm weather sets in. We now feel confident that we can handle considerably more next season, as we intend to make honey a specialty.

McCAUL & HILDRETH BROS.

New York, March 31, 1885.

◆

☞ Our rates for two or more copies of the book, "Bees and Honey," may be found on the Book List on the second page of this paper. Also wholesale rates on all books where they are purchased "to sell again."

◆

☞ We want one number each of the BEE JOURNAL of August, 1866—February, 1867. Any one having them to spare will please send a Postal Card. We will pay 50 cents for one copy of each of the two numbers.

◆

☞ To create Honey Markets in every village, town and city, wide-awake honey producers should get the Leaflets "Why Eat Honey" (only 50 cents per 100), or else the pamphlets on "Honey as Food and Medicine," and scatter them plentifully, and the result will be a DEMAND for all of their crops at remunerative prices. "Honey as Food and Medicine" are sold at the following prices:

Single copy, **5** cts.; per doz., **40** cts.; per hundred, **$2.50.** Five hundred will be sent postpaid for **$10.00;** or **1,000** for **$15,00.** On orders of **100** or more, we will print, if desired, on the cover-page, "Presented by," etc., (giving the name and address of the bee-keeper who scatters them).

To give away a copy of "Honey as Food and Medicine" to every one who buys a package of honey, will sell almost any quantity of it.

◆

☞ All who intend to be systematic in their work in the apiary, should get a copy of the Apiary Register and commence to use it. The prices are as follows:

For	50 colonies (120 pages)	$1 00
"	100 colonies (220 pages)	1 25
"	200 colonies (420 pages)	1 50

The larger ones can be used for a few colonies, give room for an increase of numbers, and still keep the record all together in one book, and are therefore the most desirable.

◆

☞ For two subscribers for the Weekly BEE JOURNAL (or 8 for the Monthly) for one year, we will present a Pocket Dictionary, and send it by mail, postpaid.

Advertisements.

ONE-PIECED BOXES!

4¼x4¼, per 1,000	$4 25
" 1⅞ inch wide, per 1,000	3 30
6¼x5¼, per 1,000	6 00

HIVES CHEAP. Circular free. Samples 2 cents. Address,

J. P. McGREGOR, Freeland, Sag. Co. Mich.
14A1t

60 Colonies of BEES
FOR SALE.

For particulars, call upon, or address,
A. L. EDWARDS, SKANEATELES, N. Y.
14A8t 5B1t

Pure Phenol! I can furnish Pure Phenol for the cure of **FOUL BROOD,** as described by Mr. Frank Cheshire, of London, England. As it is a liquid, it can be sent only by express. Price, **25** cents per ounce, delivered at the express office in Chicago.

ALFRED H. NEWMAN,
923 West Madison Street, CHICAGO, ILL.

Sliced Sections!

ONE-PIECE, V-GROOVED.

THEY are *perfect in every respect* Took the first premium at the Michigan State Fair last Sept. Every apiarist who uses them once, wants no others. Will send two samples by mail for 4 cts. postage, or a sample thousand, 4¼x4¼ for **$4.00.** The list price is $4.50 per 1,000—$21.00 per 5,000—$40.00 per 10,000. Send for Circular, etc. Supply dealers will do well to correspond with us.

Address, **BERLIN FRUIT BOX CO.,**
14A3t **Berlin Heights, Ohio.**

Bees for Sale **10** Colonies of Italians at $10 per colony, and 10 colonies of Hybrids at $9 per colony. From 6 to 10 frames. All in good condition. (box 52).
14A6t DR. JOHN S. GATES, Wilkinsonville, Mass.

I. X. L. EXTRACTORS!

For L. frame, $7; for larger frames, $8. Excelsior Cold Blast Smokers, post-paid, $1. Circulars free. Address all orders to
14D5t **W. C. R. KEMP,** ORLEANS, IND.

BEES FOR SALE!

100 COLONIES OF ITALIAN BEES that have been bred for working qualities; many of them **STRONG,** having gathered 125 lbs. of No. 1 honey the past poor season, and most of it from a distance of from 2 to 4 miles. They are in our 8-frame Langstroth Hives, and will be sold in the hives complete, if desired. Also

150 COLONIES of BROWN GERMAN BEES,

in 9-frame Hives; frames, 10x13 inches. All strong colonies. Address,

A. J. & E. HATFIELD, SOUTH BEND, IND.
14A2t

A $5.00 BOOK FOR $2.50.

MOORE'S UNIVERSAL ASSISTANT

And Complete Mechanic

Enlarged Edition—contains over **1,000,000** Industrial Facts, Calculations, Processes, Trade Secrets, Legal Items, Business Forms, etc., of vast utility to every Mechanic, Farmer and Business Man. The work contains **1,016** pages—is a veritable Treasury of Useful Knowledge, and worth its weight in gold to any Mechanic, Business Man or Farmer. By mail, in fine cloth, $2.50.

Address, **THOS. G. NEWMAN,**
925 West Madison Street, CHICAGO, ILL.

100 Colonies of Choice **ITALIAN BEES FOR SALE.** Send for Price-List. Address,
W. J. DAVIS, (Box 91)
14A9t Youngsville, Warren County, Pa.

BEES, EARLY QUEENS,

AND SUPPLIES FOR 1885.

If you need **Early Queens and Bees bred for business** and beauty, nuclei or full colonies ; sections and hives of best workmanship ; **Dunham or Vandervort Comb Foundation,** send for my catalogue for 1885.

Address **J. P. H. BROWN,**
5A21t AUGUSTA, GEORGIA.

Dadant's Foundation Factory, wholesale and retail. See Advertisement in another column.

DR. FOOTE'S

HAND-BOOK OF HEALTH,

HINTS AND READY RECIPES,

is the title of a very valuable book that gives a great amount of information, of the Utmost Importance to Everybody, concerning their daily habits of Eating, Drinking, Dressing, Sleeping, Bathing, Working, etc.

It Costs only TWENTY-FIVE CENTS, and contains **28** pages, **and is sent by mail, post-paid, on receipt of price.** This is just the Book that every family should have.

IT TELLS ABOUT

What to Eat,
How to Eat it,
Things to Do,
Things to Avoid,
Perils of Summer,
How to Breathe,
Overheating Houses,
Ventilation,
Influence of Plants,
Occupation for Invalids,
Superfluous Hair,
Restoring the Drowned,
Preventing Near-Sightedness,
Parasites of the Skin,
Bathing—Best way,
Lungs & Lung Diseases,
How to Avoid them,
Clothing—what to Wear
How much to Wear,
Contagious Diseases,
How to Avoid them,
Exercise,
Care of Teeth,
After-Dinner Naps,
Headache, cause &
Malarial Affections,
Croup—to Prevent.

IT TELLS HOW TO CURE

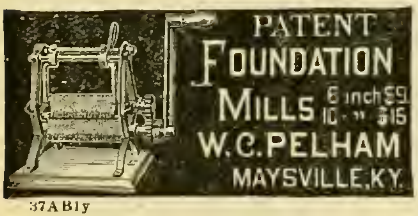
Black Eyes, Boils, Burns, Chilblains, Cold Feet, Corns, Coughs, Cholera, Diarrhœa, Diphtheria, Dysentery, Dandruff, Dyspepsia, Ear Ache, Felons Fetid Feet, Freckles, Headache, Hiccough, Hives Hoarseness, Itching, Inflamed Breasts, Ivy Poisoning, Moles, Pimples, Piles, Rheumatism, Ringworm, Snoring, Stammering, Sore Eyes, Sore Mouth, Sore Nipples, Sore Throat, Sun-stroke, Stings and Insect Bites, Sweating Feet, Toothache, Ulcers, Warts, Whooping Cough, Worms in Children.

It will Save Doctor Bills!

Price only **25** Cents. Sent by Mail, post-paid,

THOMAS G. NEWMAN,
925 West Madison Street, CHICAGO, ILL.

DOOLITTLE.—For prices of his QUEENS see page 158 of BEE JOURNAL, or send for Circular. G. M. DOOLITTLE, Borodino, N. Y.
11E15t



37AB1y

Dadant's Foundation Factory, wholesale and retail. See Advertisement in another column.

The VICTOR HIVE

DOUBLE-WALLED or CHAFF HIVES 5 in one lot, each, **$3 50;** 10, each, **$3 40;** 25, each, **$3.25;** 100, each, **$3.00**—in the Flat.

SINGLE-WALLED HIVES, 5 in one lot, each, **$2.50;** 10, each, **$2 40;** 25, each, **$2.25;** 100, each, **$2.00**—in the Flat.

WHITE POPLAR DOVETAILED SECTIONS, any size under 6x6x1¾, per 1,000, $6.00. Perfectly accurate; no better.

APIS AMERICANA.—Orders for Queens of the beautiful **SYRIO-ALBINOS** will now be received. Reared by my **new method,** all are large and fine and perfect. We have made a great discovery in Queen-Rearing, and hereby challenge the production (by natural swarming or otherwise) of Queens that will excel ours in any valuable quality. Isolated 3 miles from other bees. First come, first served. Send for circulars.

Address, **DR. G. L. TINKER,**
1Atf **New Philadelphia, O.**

---

50 COLONIES

OF BEES FOR SALE!

in Langstroth Hives at $6.00 each, delivered at the Express Office or Railroad Depot. I have been breeding my bees for **honey,** and not for **beauty;** they are mixed more or less with the German brown bees. They have wintered well. Address,

R. R. MURPHY,
Garden Plain, Whiteside Co. Ills.
14A3t

SUMNER & PRIME,

Bristol, Vt.,

BEE-KEEPERS' SUPPLIES.

WE HAVE just completed our Factory, furnished it with the most improved Machinery, and are now prepared to fill all orders for **BEE-FIXTURES** of every description. **WHITE POPLAR SECTIONS** of all sizes a specialty. All orders will receive prompt attention. Send for Catalogue Price-List and samples. 10A12t

---

THE INVERTIBLE HIVE!

INVERTIBLE FRAMES,

Invertible Surplus Honey Cases, Top and Bottom Feeders,
Entrance Feeders, Hive-Lifting Device, Honey Extractors,
Wax Extractors, Comb Foundation, etc.

☞ My new Illustrated Catalogue is now ready, and will be mailed to all who may apply for it. Address,

J. M. SHUCK,
DES MOINES, IOWA.
10A1y

Bee-Keepers' Supplies.

We have added to our LARGE FACTORY a SPECIAL DEPARTMENT for the

Manufacturing of Bee-Hives,

AND

White Poplar Dovetailed **Also, One and Two-piece SECTIONS,**

☞ All Orders will be filled promptly at the **LOWEST FIGURES,**

Send Stamp for Catalogue and Samples.

The H. F. MOELLER M'f'g Co.
1A26t DAVENPORT, IOWA.

JOHN HERR & CO., Beaver Dam, Dodge Co., Wis., Manufacturers of

HIVES AND SECTIONS.

11A4t ☞ **Price List Free.**

THAT NUISANCE!

ALLEY'S DRONE AND QUEEN TRAP.

PLEASE read the opinions of some of the best Apiarists in the World:

FROM A LADY BEE-KEEPER.—"I am well pleased with the traps I got of you last year. Please send me another doz."—Mrs. S. E. Sherman, Salado, Tex.

Your trap is a complete success.—J. E. Pond.

The trap did its work beautifully.—B. F. Newcomb.

I find the trap very valuable.—R. B. Woodward.

The trap works finely.—Chas. E. Dorr.

You have perfected a valuable device. It is a great acquisition to all bee-keepers.—G. L. Tinker.

All one can wish for.—Dr. L. A. Reading.

It is certainly *the* thing.—J. W. Carter.

It works well.—D. B. Reed.

I like your trap. It fills the bill.—G. W. Emerson.

It is ahead of any I have seen.—G. M. Doolittle.

One of the greatest inventions ever given to apiculture.—*American Apiculturist.*

An article the need of which has long been felt by every bee-keeper.—AMERICAN BEE JOURNAL.

I think it must prove a great benefit to every bee-keeper.—J. D. Enas.

A prize to any bee-keeper.—Rev. D. C. Millet.

Directions for using sent with each Trap. Send for Circulars giving prices ; also prices of **Queens, Nuclei** and other **Supplies.**

Address, **HENRY ALLEY,**
14Etf WENHAM, MASS.

PURE ITALIAN BEES for SALE

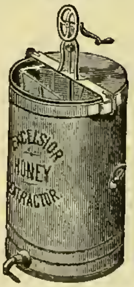
20 colonies in hives of 8 frames (12x18 in.) with straight combs. **$8** per colony, delivered at the B. & O. Express Office at Moore's Hill, Ind., prepared for shipping. Purchaser to pay express charges.

THOS. HEATON, Moore's Hill, Ind.
14A1t

Dadant's Foundation Factory, wholesale and retail. See Advertisement in another column.

EXCELSIOR

HONEY EXTRACTORS



In answer to frequent inquiries for Extractors carrying 3 and 4 Langstroth frames, I have concluded to adopt these two new sizes. The 3 frame basket is in a can of the same size and style as the 2 frame. The 4 frame basket is in the larger can, with the cone or metal standard for the basket to revolve upon, leaving room underneath the basket for 75 or 80 lbs. of honey. It will be complete, with covers, and in every way identical, except in size, with the $16.00 Extractor, 13x20, which is intended for any size of frame.

Excepting with the $8.00 Extractors, all the different styles have strainers over the canal leading to the honey gate, and movable sides in the Comb Baskets. The $8.00 and $10.00 Extractors have no covers.

For 2 American frames,	13x13	inches	$8 00
For 2 Langstroth "	10x18	"	8 00
For 3 " "	10x18	"	10 00
For 4 " "	10x18	"	14 00
For 2 frames of any size,	13x20	"	12 00
For 3 " "	13x20	"	12 00
For 4 " "	13x20	"	16 00

ALFRED H. NEWMAN,
923 West Madison St., CHICAGO, ILL.

BEES for SALE

60 Colonies in Langstroth-Frame Hives ; 20 in American Hives ; frames, 11x12, outside. Address GEO. L. HERRLING,
13A4t La Clede, Fayette Co., Ills.

THE BRITISH BEE JOURNAL

AND BEE-KEEPER'S ADVISER.

The BRITISH BEE JOURNAL is published SEMI-MONTHLY, at Seven Shillings per annum, and contains the best practical information for the time being, showing what to do, and when and how to do it. **Rev. H. R. PEEL, Editor.**
LONDON, ENGLAND.

The British Bee Journal and our Weekly for $3.50: with our Monthly, $2.00 a year.

J. W. ECKMAN,

DEALER IN

Pure Italian Bees and Queens

For further information, send for Circular.

11A13t RICHMOND, Fort Bend Co. TEXAS.

WEEKLY EDITION
OF THE
AMERICAN
ESTABLISHED IN 1861
OLDEST BEE PAPER IN AMERICA
BEE JOURNAL
PUBLISHED BY
THOMAS G. NEWMAN,
EDITOR AND PROPRIETOR,
925 WEST MADISON-STREET, CHICAGO, ILL.
Weekly, $2 a year; Monthly, 50 cents.

Vol. XXI. April 15, 1885. No. 15.

Bees Fertilizing the Flowers.

One of our correspondents sends the following item copied from the *American Cultivator*, which shows that bees and fruit flourish together in England:

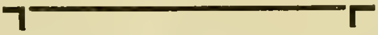
> Lord Sudeley's fruit plantations at Toddington, in Gloucestershire, England, extend to about 400 acres, and the land was formerly an arable farm rented at $5 per acre, which nobody would take. The past season has not been a good one, but 75 tons of fruit have been gathered. There are 50,000 plum trees, 900 pear trees, 9,000 damsons, and 500 cherry trees. Of small fruits there are 222,000 black-currant bushes, 120,000 raspberries, 20,000 red currants, 100,000 gooseberries, while 130 acres are devoted entirely to strawberries. There are also 10,000 poplars, 100 Scotch firs, and 100 cobnuts, planted for sheltering purposes. Lord Sudeley has established a bee-farm as well, which he finds a valuable aid in his fruit culture. There are 170 colonies, and they have proved most profitable. Adjoining the apiary, is a rabbit warren of 200 acres, in which 6,000 rabbits are killed every season. Lord Sudeley sells all his fruit to a jam maker of Ealing, who has built a jam factory at Toddington, where 160 tons have been made this season.

But for the oft-repeated visits of the bees, many a beautiful flower would in a short time cease to bud, bloom, yield fruit, or even live! Many plants absolutely require the visits of bees, or other insects, to remove their pollen-masses, and thus to fertilize them. In a letter just received from Mr. F. D. Wellcome, of Maine, he thus argues the point with "fruit growers" concerning the utility of bees to them:

> I find that bees are one of the best investments for the fruit grower. I find them especially helpful in fertilizing pistilate varieties of strawberries, etc., which blossom at a time when they are in want of much pollen; and they are always in quest of honey from the same source. In dull seasons, when strawberries are in blossom, the action of the wind cannot fertilize the pistilates properly, in which case a colony of bees is worth many times its cost, aside from the profit realized from them. Last summer I had 50 colonies and 25 nuclei, and after disposing of some of them, I packed 25 colonies in chaff on the summer stands. The last was a poor season, and I obtained no honey.

* * *

☞ Mr. B. Ames, of Thorndike, Maine, has sent us a device for reversing frames. It consists of a piece of galvanized iron bent something like this:



to be fastened to each end of the frame. The projecting ends are similar to those of the Novice metal corner; the sides of these corners are of the same piece, with a flange to pass about ¼ of an inch over the end-bars to hold them in place. In the end-bars screws, about one inch from the top and bottom, pass over a hole in the galvanized iron to which is connected a slot, running downwards, and the screw passing into this slot holds the frame in position. This makes a strong, durable and easily-manipulated device.

* * *

☞ Mr. W. M. Woodward, of Custer, Ills., sends us a robber-proof entrance-block and remarks as follows concerning it: "Any one troubled by robber-bees may be glad to learn of a simple device which, if made and used rightly, will effectually prevent their depredations. It will effectually shut out robbers, and yet allow the bees of the colony to pass in and out at pleasure." He adds:

> I make it thus: Take a piece ½x⅞ of an inch, and as long as the hive is wide; another piece the same length by ⅞ of an inch, plus the thickness of the hive stuff, in width, and as thick as to fit tightly into the entrance, but not exceeding ⅜ of an inch, else it may give room for more than one bee to pass in the perpendicular. Saw squarely off the thin piece, in the centre, and mitre two corners back ½ of an inch each way. Be particular about this, as it is one of the secrets of success. On the mitred side of the thin pieces slit with a saw ⅓ the length from, each end, and ½ of an inch from the edge. To put the pieces together, place the two thin pieces upon the ⅞-inch side of the long piece, with the mitres together, and the mitred side even, and nail with flat-headed wire-nails ¼ of an inch from the outer ends. Slide the pieces as far apart as they will go, and then nail ½ of an inch from the inner end. Take it just as it is, spread, and cut away the back from each end, smooth with the narrow strip, and just far enough to shove into the entrance of the hive. To use, close it as much as is desired, and shove it into the entrance, observing that the ends fit closely to the hive, and tight enough to not be easily moved. The upper, or ⅞-inch strip, serves as a false alighting-board, and will be used by the robber bees, while the robbed colony will use the true one. The small and shallow mitre allows a single bee to stand before the entrance under good backing, and no robber will venture within its grasp. I had a colony which had given up, and were clustered in another part of the hive; I smoked and jarred them until the robbers were all out, and closed the entrance for an hour or two, until they came down to the entrance to get out, then I forced the slides apart while robbers were still thick around the hive. The bees of the robbed colony burst out on the alighting-board and became quite thick, and before they returned they had discovered the Thermopylæ which I had constructed for them, and they successfully defended it afterwards.

* * *

☞ The "Canadian Bee Journal," is the title of a new bee-paper published by D. A. Jones & Co., Beeton, Ont. Names are plenty enough without taking that of *Bee Journal*, which for a quarter of a century has been the name of our paper. It is not only *unjust* but *unwise*, for it will cause much confusion among patrons and agents. The Dominion of Canada is a part of America, and as such it is fully included in the cognomen of THE AMERICAN BEE JOURNAL. Why not have taken the name of one of the scores of bee-papers that have died, instead of appropriating that of the oldest living bee-paper on the American Continent? We have none but the kindest feelings towards the *new* paper, but its name should be *changed*.

* * *

☞ From A. J. & E. Hatfield, South Bend, Ind., comes a section-case for a Langstroth hive to hold 24 one-pound sections, arranged with wood separators. The sections rest on iron slats, and the separators run the whole length of the case. It is a nice arrangement.

* * *

Catalogues for 1885.—We have received the following:

J. H. & W. Robertson, Pewamo, Mich.
H. H. Brown, Light Street, Pa.
F. W. Jones, Bedford, Quebec, Canada.
C. Weckesser, Marshallville, O.
Charles D. Duvall, Spencerville, Md.
G. R. Tyrrell, Laporte, Ind.
C. M. Goodspeed, Thorn Hill, N. Y.
P. O. Updegraff & Co., Irvington, Ind.—Poultry and Stock.
J. V. Cotta, Lanark, Ill.—Fruit.

QUERIES

WITH

REPLIES by Prominent Apiarists.

Shading for Hives.

Query, No. 47.—What is the best method of shading hives from the sun ?—N. J.

Messrs. Dadant & Son reply: "We shade our hives with roofs made of coarse lumber, one for each hive, projecting about 6 inches in front, and sloped only one way."

Dr. G. L. Tinker replies thus: "The heat of the sun's rays striking directly on the entrance of the hive at mid-day, gives the most trouble. The best method of shading is to front the hives toward the east."

G. M. Doolittle replies as follows: "With a light shade-board made of lath, or other thin stuff. Where high winds prevail, I prefer painting the hives white, especially the tops, when shading is rarely needed, as white repels the heat."

G. W. Demaree replies thus: "I prefer an 'over-cover' of light material—so made as to project about 6 inches over the south side of the hive."

W. Z. Hutchinson answers thus: "With a light board 2x3 feet in size. Such boards can be made very cheaply by nailing the butts of shingles to a strip of board. Have the hive face toward the east; place one of the longer edges of the board even with the north edge of the hive, keeping the board in place with a 15-lb. stone."

Prof. A. J. Cook remarks thus: "Everything considered, I think that Mr. Heddon's plan of an extra board 4 inches above the hive is the best. Two pieces nailed crosswise of the board prevents warping, and keeps the board just the proper distance from the hive."

James Heddon replies as follows: "I much prefer a quick, readily-adjustable shade. My hives front east, and I use a shade-board 2x3 feet, its length running lengthwise with the hive. It projects equally beyond each end, and all its extra width is given to the southern side. It is held in place by a stone weighing about 15 lbs. I can manipulate this stone and shade in less time than I can handle or get around any other fixture for the purpose. I never saw any style of hive which I should not want shaded during a part of the year, and exposed to the sun at other times."

◆

Frames Crosswise to the Entrance.

Query, No. 48.—What are the advantages (if any) when the frames run crosswise to the entrance ?—Riverside.

James Heddon answers thus: "Practically there is none, as regards the bees. Though they instinctively build the other way, practically we find no advantage in that."

Prof. A. J. Cook remarks thus: "I have had frames both ways for years, and I see no difference. Convenience should guide."

Dr. G. L. Tinker replies thus: "There are none."

G. M. Doolittle answers as follows: "I consider it a disadvantage to have them run thus."

G. W. Demaree answers thus: "I have tried frames both ways, and I prefer to have the ends of the frames pointing towards the entrance."

W. Z. Hutchinson remarks thus: "When the frames are crosswise to the entrance, only one division-board is needed when contracting the brood-nest. Bees are less likely to swarm when their brood is far removed from the entrance, and if the frames run crosswise to the entrance, it is an easy matter to keep the brood at the back of the hive by occasionally changing the combs about."

◆

Transferring Bees from Box-Hives.

Query, No. 49.—What is the best method (briefly stated) of transferring bees from box-hives.—Burlington.

Dadant & Son remark as follows: "Drive the bees back, then transfer the worker-comb only, by fastening it with wire clamps. These can be removed in a few days. Do not allow any leaking of honey, as it may cause the colony to be robbed."

Prof. A. J. Cook answers as follows: "Mr. Heddon's method of drumming out and hiving upon foundation is good. The combs are melted up when the brood is all out. The old way is more trouble, but in lieu of foundation or very early in the season, it is to be preferred."

W. Z. Hutchinson remarks thus: "Drive the bees from the box-hive, and put them into a hive furnished with wired frames of foundation. Twenty-one days later, again drive the bees from the box-hive—destroy the queen accompanying this second 'driven colony,' and unite the bees with the bees first driven out. Extract the honey from the box-hive, and melt the combs into wax for making more foundation."

H. R. Boardman replies thus: "Drum out the bees at the commencement of the honey-season, and hive them upon foundation the same as a new swarm upon the old stand; be sure and get the queen. Remove the old colony to a new stand, and drum out the balance of the bees when hatched from the brood, and unite them with the new colony; use the honey to feed up the new colony, and melt up the combs into wax."

G. W. Demaree answers: "If the combs in the box-hives are good ones, then, decidedly, the method given in the standard works on bee-culture, is the best; but if the combs are very old and crooked, it will pay best to divide the bees into hives with full sheets of foundation, as described by Mr. Heddon heretofore."

Metal Rabbets and Corners.

Query, No. 50.—What are the advantages of metal rabbets on hives, and metal corners on frames ?—J. H.

Prof. A. J. Cook remarks thus: "Metal rabbets prevent annoyance from too firm gluing. To the unbiased mind, I think that metal corners would be pronounced a nuisance."

G. M. Doolittle replies thus: "I use neither, as I consider their disadvantage greater than their advantage."

W. Z. Hutchinson says: "They prevent the bees from fastening the projecting ends of the top-bars to the rabbets of the hive with propolis. I would never use metal corners, but I would use metal bearings (not 'rabbets'—'call things by their right names') only in supers. The reasons *why*—would occupy too much space for this department."

G. W. Demaree replies as follows: "Metal rabbets are unnecessary, except in the upper stories used for extracting; and metal corners are a nuisance anywhere; they are good for nothing but to cut the operator's hands when handling combs loaded with honey, and to jump out of place just when one wants them to stay in place. I like a good 'movable frame,' but I do not want a 'suple jack' frame."

James Heddon replies as follows: "The advantages are that the bees cannot glue the frames as solidly, and that there is less liability of pinching a bee when the frame is replaced. The latter is more than offset by the miserable hand-hold afforded by metal corners; the former, by the fact of the frames sliding about when the hives are moved from place to place. With tenement hives, they do better, but these are rapidly moving out among the 'has-beens.' I reject both, except the metal rabbet in the extracting supers. I have tested metal rabbets thoroughly since 1871."

Dr. G. L. Tinker remarks thus: "I prefer metal rabbets, as they greatly facilitate the handling of the frames. As to metal corners, they are detrimental in many ways."

◆

☞ The second annual meeting of the Des Moines County (Iowa) Bee-Keepers' Association will be held at the Court House in Burlington, Iowa, on April 28, 1885, at 10 a. m. All interested are cordially invited to attend and make the meeting as profitable as possible. All implements of the apiary sent to the Secretary will be exhibited at the meeting, and will be disposed of or returned, as the owner directs. John Nau, Sec.

☞ The Willamette Valley Bee-Keepers' Association will hold its second meeting at La Fayette, Oregon, on the third Tuesday in June, 1885. All who are interested are invited to attend. E. J. Hadley, Sec.

☞ The Central Illinois Bee-Keepers' Association will meet at Jacksonville, Ill., at 10 a. m., on Saturday, May 2, 1885.
Wm. Camm, Sec.

☞ The spring meeting of the Cortland Union Bee-Keepers' Association will be held in Cortland, N. Y., on May 12, 1885.
W. H. Beach, Sec.

CORRESPONDENCE.

Explanatory.—The figures BEFORE the names indicate the number of years that the person has kept bees. Those AFTER, show the number of colonies the writer had in the previous spring and fall, or fall and spring, as the time of the year may require.

This mark ⊙ indicates that the apiarist is located near the centre of the State named: ♁ north of the centre; ♀ south; O+ east; +O west; and this ♂ northeast; ~O northwest; O~ southeast; and ♀ southwest of the centre of the State mentioned.

Read at the Davenport Convention.

Starvation and Bee-Diarrhea.

WM. GOOS.

I wish to endorse Dr. Southwick's remarks on page 171, that the bees mentioned died of starvation, and that starvation was the cause of the symptoms of diarrhea which the bees exhibited. In support of which I want to give a few facts as I have found them in my experiments and observations on bees that have died during winter.

Of the many conflicting theories advanced as the cause of our winter losses, I think that the "pollen theory" comes the nearest to the principal cause of loss, though in an indirect way, and not as some would have us believe; that is, not for the reason that it causes diarrhea, but because by its use in a natural, and in itself harmless, way, it may, by the combination of circumstances, become the cause of the most terrible loss. I speak of pollen as an indirect cause of loss, for the reason that the final result may be changed without removing the principal cause—pollen.

When I first read of the "pollen theory," in the fall of 1881, I decided to take out all the pollen in my five hives, and note the effect. As my hives were used for producing extracted honey, I did not have much difficulty in selecting combs which contained no pollen, and as the combs were new, I could hold them in the light and see the pollen. Not having quite enough full frames which contained no pollen, to winter them on, I took enough partially filled ones and fed sugar syrup, and not one of the 5 colonies reared any brood until they could gather pollen from the maple trees, being from a month to six weeks later than the time when my neighbors' bees began to work on the pollen. So far as I could see, the only benefit to be derived from taking away the pollen was, that the bees would not breed without it.

In the spring of 1881 I made a discovery proving to my mind that starvation was the cause of diarrhea, but I decided to say nothing about it to any one until I should collect such evidence as could leave no doubt in my conclusions.

During the winter of 1882-83, I examined 2 colonies of bees that had died during the latter part of February, 1883. They were just as they had died, and I had a good chance to see the cause, which was the same in each case. The dead bees were still between the frames, and many of them still clustered over the brood that they would not leave, though death had stared them in the face, for there was not a cell of honey within reach of the cluster; by leaving the brood to die they might easily have moved to some other part of the hive during the first warm day, where there was honey in plenty; this they would or could not do, and the few bees that attempted it, in the cold weather, if any such there were, must have instantly chilled and died when they left the warm cluster, for the honey was as cold as ice. In all such cases I have found pollen on the frames whereon the bees had clustered, which was, no doubt, the cause of their breeding. This shows me two things, viz:

1. Bees, when left with pollen in the hive, begin to breed very early in the spring, or rather, in the winter, generally about the middle of January, probably owing to the fact that usually they then have their first winter flight. I say that probably this is the reason, for I have noticed that when they have their first good winter flight, after real cold weather has set in, I invariably find brood in some of the hives on the next warm day, which generally occurs in about 2 or 3 weeks. This was true last year, and also this year, as they had a good flight on Jan. 8, and another on Feb. 3, when they had sealed brood.

2. Unless there is plenty of honey near the brood-nest, they will starve with honey in the hive. As the bees always cluster on the centre frame, in the fall and winter, usually so close together as to cluster only between from 3 to 5 bee-spaces, and as these frames are always in the hive, they contain less honey in the fall than the outside ones, being generally not more than one-half full; the reason for this is, that they breed in these frames more or less until honey ceases to come in in the fall, and, of course, they then have nothing to fill them up with, and then what they do contain is always the first consumed. About the middle of January the queen lays in the empty part of these frames, and the bees cluster closely around the brood, and always consume the honey near the brood-nest first; and those that breed much, are more liable to get short of honey on these frames. Such as consume much honey, or had too short an allowance in the fall, will have consumed all the honey within reach of the cluster in a short time after they begin to breed; and if the weather is so cold that the bees are unable to move around in search of food, they will have nothing to eat or to feed the brood, as the cluster will not move from its position, and the result is that they die of starvation with plenty of honey just out of their reach. This would not be the case if we had occasional warm days, for they would carry enough honey within reach to last a few days; but if the weather remains cold enough for bees to cluster, they will be lost; this does not usually happen before the latter part of February or the first part of March, and it may happen even later, if the weather remains cold enough for the bees to cluster.

Bees have died early in this section this year, doubtless owing to the fact that we had scarcely any fall honey, and, of course, this left the frames that contained brood during the fall, with very little honey; and then the winter has been so cold, thus causing the bees to consume more honey to keep up the required amount of heat. All who did not feed their bees plentifully last fall, will have lost heavily during the winter. Very strong colonies generally winter the best, as they cover more frames, or cluster between more bee-spaces; this brings them nearer to the outside of the hive where there is more honey; if there are bee-spaces or winter passages over the frames, the cluster will move back on all the frames at the same time.

To explain more fully: Suppose that we had a colony of bees wherein the two centre combs contained but very little honey, say about one-third full, and the next combs on either side were almost full of honey; and that the bees clustered on all four frames; the bees on the two centre frames would not move back any faster than those on the two outside combs, showing that those on the outside combs must pass the honey to those on the centre frame, thus enabling them to keep the cluster altogether instead of scattering it, as would be the case if those that clustered on the centre frames moved back as fast as they consumed what honey was on those combs without any help from those on the outside combs, as those on the outside combs would move back only so fast as they consumed the honey. This shows the advantage of a large colony over a small one, in this respect; for, suppose that we had 2 colonies of bees to prepare for winter, both having an equal amount of honey and pollen, namely, four frames one-third full in the centre, and four full ones, two on either side of the four empty ones, and suppose that one colony was so weak that it could only cluster in three bee-spaces, and as there would be almost as many bees clustered in these three bee-spaces as there would be between the same number of bee-spaces in the stronger one, and as they would consume the honey only between these three bee-spaces, they would have to move back on these three frames much faster than the stronger colony that would cover 5 or 6 bee-spaces. If the weather were still cold enough for bees to cluster, the weaker one would die of starvation and diarrhea, and the stronger one would still be in a healthy condition. For this reason I should advise putting Hill's device over the frames, or making holes through the combs, so that the bees in one bee-space can more readily communicate with the rest of the cluster, for although, they always have a bee-space between the quilt or honey-board, and the top of the frames, by using Hill's device it makes the bee-space larger, and keeps them in communication with each other.

From the above, some may get the impression that bees never starve without brood in the hive; this is generally, though not always, the case, as I have seen several colonies this winter that died of starvation and diarrhea without brood in the hive; but this is easily accounted for as they were not very strong, and could not cluster in many bee-spaces or cover many frames of honey, and as very little if any honey came in after the bees slackened up in breeding last fall, the frames on which they clustered contained but little honey; and the weather was unusually protracted cold during the month of January that they could not have moved the cluster to the other frames even if they had been so inclined. I have never seen a case where the cluster moved their position to other frames than the ones on which they clustered in the fall, even though they got out the honey on those frames.

I can easily see why the pollen theory was advanced, for in every case that I have seen, where bees have died in winter, I found pollen on the the frames on which the bees had clustered, and as the honey that had covered the pollen in the fall had all been taken out, and as there was still plenty of honey in the outside frames, and as all showed signs of diarrhea, what is more natural, at first sight, than to conclude that the bees had died with the diarrhea? This was jumping at a conclusion, for the honey on the frames on which the bees had clustered, had all been used, and the cluster of bees could not move to the frames nearer the outside of the hive, in very cold weather.

That starvation is the real cause of winter loss and diarrhea, I have no doubt; for several times in the latter part of February, on a warm day, I have found several colonies having but little honey; and, last year, a few that had none in the frames on which they were clustered, Knowing what the result would be if the weather remained cold enough for bees to cluster a week at a time, if I left them in that condition, I moved two of the outside combs that were full of honey, next to those that contained brood, one on either side, so that the bees must then also cover a part of the fame of sealed honey; doubtless this saved the life of the bees, as the frames on which the bees were clustered contained brood and also pollen, and in fact were in every respect the same as those I had seen that had died of diarrhea and starvation.

Some may claim that the moving of the frames did not save the bees from death by diarrhea, but that the cleansing flight they had on the warm day on which I changed the combs saved their life. On the same day a neighbor having lost several colonies, had but two left, and these also had a flight, and were then in a normal condition. After this warm day we had about a week of cold weather, cold enough for bees to cluster, and then another warm day, when both of them were dead. The cleansing flight they had on the first warm day, did not save them, and they died of starvation and diarrhea. On examining them I found the combs in every respect similar to mine on the first warm day, as both had consumed all the honey on the frames, on which they were clustered; both had pollen and brood on those frames, and I doubt not, had he placed two of the outside combs next to the brood, they would not have died, nor would they have had the diarrhea.

I believe that this difficulty can usually be prevented by removing all the pollen, for, as my experiment showed, they will not breed without pollen, and the result is, that they consumed not more than two-thirds as much honey. Again: Suppose a colony when breeding, had a certain number of frames on which the bees were clustered, and that these frames contained honey enough to last them three months, this same colony, when not breeding, would consume but from one-half to two-thirds of this same amount during the same length of time, and, of course, instead of lasting only three months, it would last from 4½ to 6 months, thus bringing them safely through the winter, when, if breeding, they would have starved long before.

I should not recommend the wintering of bees without pollen for the following reasons: 1. Unless in new combs, you cannot see or take out all of the pollen, for the bees cover it with honey and then seal it over; and if they have only a little they will breed just as much; and the same would be the result as if all the pollen were left in.

2. When the pollen is left in, the bees will be much stronger in the spring than they will when not allowed to breed, and I think it pays.

I usually prepare my bees for winter during the first week in October, leaving only as many frames as the bees can well cover, taking out those nearly empty, which are generally near the centre of the hive, and leaving such of the centre frames as contain brood, which I generally find to be from one to three, according to strength of the colony. If some of the stronger colonies have more brood than I then care for them to have, I place them in such hives as have the least brood, leaving only from two to three frames. I never leave more than three partially empty frames in the strongest colonies, and only two in such as will cover less than 7 Langstroth frames. I prefer these centre frames to be two-thirds full of honey, and the balance full of sealed honey. I then place the full frames next to the partially empty ones, putting half of them on either side, my object in so doing being that when the bees cluster, a part of the cluster must cover these full frames; and if these frames are not full of honey, I feed enough sugar syrup to fill them. Before feeding, I arrange the frames as I want them in winter, and if the colony is small, I leave only frames enough for them to entirely cover, and put in a division-board; then I give them from two quarts to a gallon of syrup at a time, according to the amount required, and they fill the combs so quickly that it does not start breeding, as would be the case if I fed a little at a time.

After all the frames have been arranged to my satisfaction, I place Hill's device over them, and over this a blanket of coarse coffee-sacking to prevent the bees from gnawing through, then fill the top story with sawdust, and as I have a large auger hole in each gable end of the cover of the hive, this draws all the moisture into the straw, as I find the straw damp and moldy in the spring, and the lower story dry and sweet. They are then ready to withstand the coldest winter on the summer stands. By this plan bees will winter in the coldest weather on the summer stands and not feeze. I have wintered several small colonies that were late swarms, in single-walled hives on the summer stands, and unprotected, when it was 31° below zero. The wind was so strong that I had to tie the covers down, and screw the entrance-blocks down, and they came through in good condition; in fact they seemed stronger in the spring than they were in the fall.

Davenport, Iowa.

For the American Bee Journal.

The Causes of Bee-Diarrhea.

W. J. DAVIS.

The past winter has tested the power of endurance in animal life. The long continuance and severity of the cold must necessarily have produced heavy losses of bees in most of the Northern States. But out of those losses some lessons of instruction should be gathered. I think that scientific apiarists are agreed that usually not one, but a combination of causes produce destructive bee-diarrhea. Good food, and plenty of it, pure air in abundance, and protection from extremes of heat and cold, are three very important conditions of health. Bees do survive severe winters when the food and ventilation are right. They may survive with poor food, if the winter is mild enough to allow of frequent flights. In this latitude we may reasonably expect plenty of cold weather; mild winters are the exception. Hence, if we expect success in wintering, the first question to be decided is, the quality and quantity of winter stores; and, second, that condition of temperature and ventilation which will allow of five months of confinement, if the winter be of that character to require it.

I have had experience both in the past and present, with bee-diarrhea, and the present experience prompts this article, and with the hope of throwing some light on the subject, I propose to give that experience.

About 12 or 13 years ago a very great mortality of bees occurred, taking every bee in some apiaries, and once since, a mortality nearly as great. An analysis of the case so far as could be reached, revealed these facts: The preceding autumn had been warm and dry, and plant-lice accumulated in large numbers, particularly on beech trees. They exuded a dark, sweetish, bitter liquid which was collected and stored by the bees. The absence of beech trees in this locality gave me a happy release from that trouble. But Mr. M. K. Wing, of Chautauqua County, N. Y., brought me a bottle of the "vile stuff," and it made me think of what a friend said about Mitchell's patent slippery-elm bee-feed, "the smell of it would cause a bee to vomit." Bees cannot be wintered in this latitude on such "honey-dew."

In the winter and spring of 1883 I lost, in one locality, 15 out of 23 colonies; 3 very strong colonies that had given the best results in surplus comb honey during the previous summer were the first to die. They had stored all their good honey in the supers, and they had put fall honey in the brood-combs, after the removal of the surplus-boxes; and I have reason to believe that it was largely from the blossoms of the boneset, recommended by Prof. Cook, in the second edition of his Manual, as a honey plant. There was considerable boneset in bloom in that locality in the autumn of 1882, and but little else. I am satisfied in my own mind that it was not the so-called honey-dew. There is no boneset near my home apiary, and my bees at home had no diarrhea that spring.

Last fall I brought all my bees home to winter; part of them were brought five miles in a spring wagon. I moved them as it suited my convenience—the first load on Aug. 9, and the last was brought home on Oct. 18. From Nov. 6 to Nov. 20, 100 colonies were put in a cellar under my house, and 100 in a wintering-house (above ground). One colony has died of diarrhea, and several more have it pretty badly. Every colony so affected was among the last brought home. There is not the slightest sign of diarrhea among any that were at home during the season, or those first brought home. There was boneset in that locality; none here. I have lost 3 colonies by starvation (with honey in the hives, but they failed to reach it), and no sign of diarrhea with either of them; hence starvation does not always produce diarrhea.

Another cause of bee-diarrhea is unseasonable breeding. Mr. Langstroth says in his work, that the queens begin to deposit eggs early in January, and I am quite sure that he is correct. But suppose all queens do begin to lay at that time, the amount of brood produced depends on the encouragement given the queen by the bees. The presence of pollen in the hive would, as a matter of course, incline the bees to brood-rearing, and as the cells within the cluster become filled with brood, the bees are unable to pack as closely as when each cell can hold an adult bee; hence the ability to resist cold is diminished, and a feeling of unrest seizes the colony; large quantities of food are eaten, and the result is diarrhea. In the absence of pollen, or any substitute therefor, bees will not, and I might say cannot, rear brood. What the further developments of the the past winter may be, before the bees can have a cleansing flight, I cannot say. The ground here (March 25) is still covered with snow and ice. On ten mornings this month, the mercury has been at or below zero; on March 21 it was 20° below, and at no time, I think, has it been above 34° in the shade.

Youngsville, Pa.

For the American Bee Journal.

Over-Production—Marketing Honey.

A. D. STOCKING.

On page 88, Mr. Heddon brings forward nothing to disprove the ideas which I advanced on page 55, but simply says that "in a few years he will see the error of his ideas," etc. If I am wrong I have good company, for I notice that several abler writers than I,have given the same views that I have with regard to over-production and the honey market; and his reference to the market reports only proves the correctness of my views as to the fallacy of sending all our honey to large market centers. Probably 80 per cent. of the honey sent to Chicago has to find its market within the city, and not 20 per cent. enters into the country markets; and it is probably about the same with all other large honey centers. I may be in error as to this, but one thing is certain, but very little honey finds its way into the country from these large honey centers, and this being the case, it is an easy matter to overstock the market and depress prices.

I have always contended that "supply and demand" control the markets for all products, and honey is no exception. I also claim that there can never in fact be such a thing as over-production in any thing until that product is brought within the reach of every consumer of the same. All commercial products have their large central markets, and from these are distributed all over the country, by representatives of these several markets, and thus a market is created. Not so with our honey; it is sent to some central market, and but little effort is made to extend the market into the country. Who has ever seen a representative of the honey market soliciting orders through the country? I never have.

I am well aware that honey is not a "modern commodity," and I am also aware that history teaches us that honey was used by the ancients as a common article of food, and that extensively, and that it was a staple article of commerce. I realize that "honey is a luxury forever," and it is one of the best God-given luxuries ever bestowed upon the human family. But it is no more a luxury than sugar, syrups, tea, coffee, and many other things that are looked upon as necessaries. I do not think that the people need educating so much as to the qualities of honey as to the benefits to be derived from its more extensive use as food, both on the table and in the preparation of pastry, to the exclusion of the grossly adulterated sweets upon the markets; and also that it should no more be considered a luxury than sugar, etc. There is no reason why honey cannot be made as staple an article of commerce as sugar, and also that it should not be produced and put upon the market at a price to bring it within the reach of the poorer class of consumers.

It is too true that the people consume large quantities of the adulterated sweets to the exclusion of honey, and it will continue so long as the people who are aware of the adulterations and their evil effects upon the human system, continue to buy and use the same and take no steps to stop the manufacture and sale of these adulterations. The bee-papers are doing all they can to this end, but they are read by but a small part of the people, and but little is seen in the general newspapers about the matter. I believe that if the bee-keepers throughout the country would unite their efforts, and through our organizations and conventions adopt measures to have this question presented fully to the people through the newspapers, both city and country, that very soon so strong a sentiment will be created that our legislatures will be compelled to enact the necessary laws to put a stop to this nefarious business, and its sale must be prohibited as well as its manufacture; and I believe that in no other way can they do more to advance their own interests than in this direction.

I have not been through as many stages of bee-keeping as many others, and never expect to; I am only a student as yet, and not a teacher. I have read and studied a great deal with my eyes open, and have learned a great deal, and expect to learn a great deal more from the reports and experiments of our old leaders. I think that there is a great deal to be learned yet, and some things yet to be learned by the graduates in the science of bee-keeping. There is more theory and speculation advanced than is essential to successful bee-keeping,and many of the young bee-keepers can lead the older ones in some things, and I think that their views and observations should not be ignored or ridiculed. Many of the A B C pupils have accomplished results which are surprising, and contrary to the theory of many of the older ones, and I hope none of them will be deterred from expressing themselves through the periodicals, from fear of the criticisms of the older heads; for it is an old saying that "a child can ask questions that a wise man cannot answer." I simply present my ideas for the benefit of others, believing that there is no one but can present something that will be beneficial and of interest to some other one.

Ligonier, Ind.

☞ The Mahoning Valley Bee-Keepers' Association, will hold its next meeting at Newton Falls, Ohio, on Thursday, May 28, 1885. E. W. TURNER, Sec.

For the American Bee Journal.

How my Bees Have Wintered, etc.

REV. M. MAHIN, D. D.

Last fall I had 37 colonies of Syrian and Italian bees, which I prepared for winter as follows: I made winter passages in all the combs, so that the bees could pass through from side to side without going under or around the combs. As my frames have top-bars one inch wide, I put square wooden strips about ½ of an inch square between the top-bars, so as to make the tops of the frames close fitting; but these pieces were put in rather loosely so that a little air could pass through between them and the top-bars. Then I spread about a square yard of burlap or coffee-sacking over the section-case on the top of the hive, and letting the cloth bag down into the case, I filled it half full or more with sawdust or chaff; and folding the edges of the cloth over the sawdust or chaff, I then put the cap on. There is no packing around the bodies of the hives, all of which front to the north, though if I could have done so without too much trouble, I would have preferred to have them front to the south in the winter. The entrances have been carefully kept open.

The result of this management is, that there have been no accumulations of frost and ice in the hives, notwithstanding the exceptional severity of the weather; and if it had not been that two strong colonies consumed all of their stores, and perished with hunger, I would have lost only one colony out of 37. The 34 that are left are, on the whole, in good condition. I have never before had so good success in a very cold winter. My method of wintering may not be the best, but with me it is a success, and I am content with it. I think that most of the bees owned by the small bee-keepers in this region are dead. One has lost 4 out of 5 colonies, and another who had about a half dozen, has lost all. I have not heard from those who make some pretense of taking care of bees as they ought to be taken care of.

I have been supplying myself with a lot of very cheap and convenient bee-feeders, by taking mutilated fruit-cans, and melting the tops off. All that is needed now, is to tie a piece of thin muslin over the mouth of each can, after filling it with honey or syrup, and it is ready for business. Now lay a couple of small sticks across the top-bars of the frames, and invert the feeder on them, and pack something around and over it to keep the warmth in, put on the cap, and your bees can "snap their fingers" at hunger and frosty nights. Four of my colonies that were short of stores are in that condition at this hour. A more costly feeder has some advantage over this, perhaps, but the difference in the cost is greater than the difference in the value. Almost every family has plenty of old fruit-cans that can be utilized in this way. Glass fruit jars answer very well if the upper story of the hive is high enough to cover them.

Honey being so scarce last fall, I wintered several of my colonies principally on sugar syrup, and I find them now among my best colonies. I have often wintered my bees in that way, sometimes having no honey in the hive, and I have always had them to winter well. I have never put anything into the syrup to keep it from granulating. If it is sealed up in the combs, it will not granulate; at least it never has for me. I prefer the pure syrup, without any mixture, and I think that the bees do also.

New Castle, Ind.

For the American Bee Journal.

Bees Apparently Dead, etc.

I. P. WILSON.

I put about 30 colonies of bees into my cellar early in last December, and left 12 colonies on the summer stands. One-half of those in the cellar are dead, and only one of those left outdoors has survived the winter. None died from starvation, as an abundance of honey was left with nearly all the colonies that died. I should not have called it honey, for it does not deserve that name. I did not use or sell a pound of the honey gathered at my home apiary, last summer. The bees in this locality worked on honey-dew the greater part of the time, and it was entirely unfit for use.

I had 12 colonies in the country where white clover and basswood were abundant, and where honey-dew was scarcely noticed, and these gathered most luscious honey. These bees wintered well, and have come out in good condition; while those supplied with honey-dew nearly all died with the diarrhea, leaving the hives in a sickening condition.

For years I have wintered my bees in a cellar especially made for that purpose, and have rarely if ever lost a colony, and so the depleted condition of my apiary, this spring, is an unusal thing with me, and is quite disheartening.

My bees were taken out of the cellar about the middle of March, and on the day following it turned cold, the mercury fell to 5° below zero, and a strong, cold wind prevailed for several days. At length a mild day came, and I passed around hastily to peep at my 16 remaining colonies, when, to my sorrow, I found two of them apparently dead, and one of these contained my choicest queen—one which $20 would not tempt me to part with. I carried the hive into my kitchen, and looked carefully for the beautiful queen, so as to take one more lingering look at her. I at length found her and held her my warm hand for perhaps 15 minutes, when, to my surprise, I saw her quiver, and a moment later she commenced to move. I put her into a cage, which I then placed into my vest pocket, and carried her all day, and by night she was perfectly restored. In my haste I had left the apparently dead colony in the kitchen near the stove, saying, as I left home, "Let them stay there until noon, and perhaps they, too, will revive." Sure enough, they did revive, and when I went home at night I liberated the queen, and after keeping them in a warm place for 3 or 4 days, I again placed them on the summer stand where they are now doing well; and thus my valued queen is saved.

The colony had become quite weak, and the hive was by mistake left open in front and at the honey-board, or, perhaps, they would not have become chilled as they did. After restoring this colony, I tried the experiment on the other one that seemed to be dead, and to my surprise I succeeded in restoring its valuable queen to life, but I could only revive a very few of the bees. I found another colony which was queenless, into which I introduced this queen, and she is likewise doing well. How long they had been in this torpid condition, I do not know; but one of them, I am sure, had been so for 24 hours.

Burlington, Iowa.

For the American Bee Journal.

Is Pollen Fed to Larval Bees?

J. RUTHERFORD.

On page 134, Mr. G. M. Doolittle makes a feeble reply to my "Hard Nut to Crack," on page 60; in fact, the one statement confutes the other. The question at issue is, "Do bees in the larval state eat pollen?" On page 5, in the second paragraph, Mr. Doolittle says: "Right here I wish to say that whenever I use the word pollen, I use it in the sense of bee-bread which is stored in a solid mass in the cells." I want no better definition of the word pollen, and I accept it without further explanation. He then says: "The first fact to which I wish to call the reader's attention, as bearing on this winter question, is, that the intestines of the newly hatched bee are filled with pollen when it emerges from the cell; in fact this pollen can be easily seen by the naked eye, in the larva, before it is sealed over in the cell." Such a statement is simply imaginary, and, no doubt, the whole article was built upon a wrong foundation; because bees do not eat pollen in the larval state.

Again, in the second paragraph, on page 134, he says: "From many careful observations regarding the food of larval bees, I have been led to believe that such food was composed of about two parts honey or saccharine matter, four parts pollen, or flour when used in early spring for a substitute; and one part of water, the whole being taken into the stomach of the bee and formed into chyme, after which it was given to the larval bees in the cream-like form as we see it in the cells." There is quite a difference in his two statements, and I am glad that he is coming nearer the truth, and I hope that after he has read this article he will not only recede from his former statement, but will become a convert to scientific truth.

Allow me to analyze the food of larval bees, and see if we can trace any of Mr. D's detailed ingredients which he supposed form the food of the larval bees.

I now propose to show that his last statement is as imaginary as the first, and that no trace of his different ingredients, and especially pollen, can be found. Dr. Donhoff, an eminent German authority, says that nineteenths of the larval food contains animal albumen and fibrine, and makes the following tests in support of this statement:

1. "If the jelly be treated with ether and water, the pure substance alone will remain; this is whitish, translucent and elastic, having all the appearances of coagulated albumen and fibrine.

2. "If the jelly dries up in a royal cell (as is the case particularly in queenless and drone-producing colonies, where the bees undertake to rear a queen from a drone larva, which invariably perishes in the process), it becomes transformed into a tough, yellow, transparent mass like that into which proteine substances are converted.

3. "If the wax and sugar be extracted from the jelly, by ether and water, and a solution of sulphate of copper be added to the residuum, oxide of copper will be precipitated by caustic potash; but the solution will retain the blue color of the salt.

4. "The mass remaining, after treating the jelly with ether and water, will be completely dissolved by a solution of caustic potash, assuming a faint yellow tinge, and on the addition of muriatic acid, will emit an odor resembling that of sulphureted hydrogen.

"Ingredients present in minute quantities only, are: 1. Wax. When I treated the jelly with ether and water, there remained an evaporation by heat—a white mass having an unctuous feel, and which, when warmed, rendered paper transparent and glossy. 2. Sugar. When the jelly was digested in water holding sulphate of copper in the solution, the addition of caustic potash produced yellow precipitate. 3. No trace of pollen or starch could be detected by employing the usual re-agent; the presence of albumen and fibrine shows that the jelly is an animal secretion, and should be designated by some more appropriate name. It seems probable that the secretion is effected by a gland in the gullet, or œsophagus, since jelly is never found in the stomach of the bee."

I may also add the names of Dzierzon and Prof. Von Siebold as holding the same view, that the food of the larva is an animal secretion, and that pollen enters in no way into the food of the larvæ. I would also add that it is impossible for the young bees in the larval state to eat pollen, because the digestive organs are not complete, consequently all the food taken by the larval bees must be higher concentrated food, and not fed as some of our scientific bee-keepers would have us to understand, but they simply absorb the food placed within the cell.

Prof. Cook classes all larval insects alike, which is simply erroneous, and on page 63 of his Manual, he says: "The larvæ of insects are voracious eaters—indeed, their only work seems to be to eat and grow fat. As the entire growth occurs at this stage, their gormandizing habits are the more excusable. I have often been astonished at the amount of food that the insects in many breeding cases would consume."

Now, such a statement is very misleading, because there is not the least similarity between the larva of the honey-bee and the larva of the cabbage butterfly, silkworm, etc. The larva of the honey-bee never voids, never consumes any raw material, and lives sparingly and exclusively on a milk diet, and pollen is only consumed by the bees in a perfect state. Now the larva of the cabbage butterfly is just the reverse. It lives exclusively on the raw material, eats twice its weight every day, and voids freely, as every lover of that vegetable knows; but in a perfect state it eats no raw material, and lives exclusively upon the sweets gathered from the flowers, and only makes its appearance on the cabbage leaves, and deposits its eggs. Again, the Professor says: "The food is composed of pollen and honey—certainly of pollen, for I have repeatedly proved that without pollen no brood will be reared." And again: "The functions of bee-bread is to help furnish the brood with proper food; in fact, brood-rearing would be impossible without it."

Now, while we must acknowledge our indebtedness to Prof. Cook, for the many points and incentives he has given us, and the interest which he has taken in bee-culture generally, merits an enviable position; and while I acknowledge his power and influence among the bee-keepers of America, I must, in honor to the truth of which we are all in search, call the above quotation in question. It is quite evident that the Professor has written from fancy or preconceived notions of old-time bee-keepers, instead of personal observation, for he has fallen into the natural blunder of supposing the food of the larva to be simply bee-bread, because great quantities are consumed during brood-rearing, and consequently it must be fed to the bees in the larval state, as he says he has repeatedly proven, without pollen no brood will be reared. Such an assertion is hardly circumstantial evidence.

One may as well say, and with as much truth, that because the cow consumes great quantities of hay, turnips, etc., during her gestation, that her young must be fed on the same raw materials. Now, we all know that the cow produces milk from the raw material to supply her young with the necessary food, and that her young lives exclusively on milk. So the mature bee consumes pollen, honey and water to produce milk for the larval bee. This food contains, as I have already shown, fibrine, albumen, caseine, sugar and salt, which is identical with the milk of other animals; and I may also state, that milk is the only single article of natural food that serves to support the animal body. The food of the larva is purely an animal secretion, and cannot possibly contain pollen in any sense of the word, as the change is perfect from the raw material to the life-giving fluid.

Scranton, Pa.

For the American Bee Journal.

Wintering Bees.

J. W. BAYARD.

While the honey-bee was created to live and propagate in a warm and genial clime, civilization and commerce has forced it into higher latitudes where it comes in contact with frost, snow and ice. Its physical make-up is so fiercely assailed that it becomes a marvel even in the hands of our most profound experts. Transpose, if you please, the Esquimau with the Hottentot, and each will sigh for his native land, and speedily succumb to climatic influences. Nature has been warped; the normal conditions of the bee have been violated, and now we are seeking for a remedy for our manifold troubles.

The winter of 1855-56 will long be remembered by old settlers, as a period in the history of the honey-bee. Peach trees were all killed, and many cherry trees burst open with the frost. No flight was possible for the bees for more than 12 weeks; out-door wintering then being the order of the day. At that time I had 7 colonies in box-hives, conditioned as follows: Six were placed on a wide, thick plank (called a "bee-bench") close together, and protected only on the west by a tight board fence. All the practical ventilation was 3 or 4 V-shaped openings called "fly-holes." When the first thaw of spring came inviting the bees to take a flight, not one bee responded to the invitation. Upon examination, I found them largely piled on the bottom-board. The walls of the hive were dripping with water, and the combs were all wet and moldy—all indicating the worst possible phase of bee-diarrhea, being the result of excessive cold, long confinement and bad ventilation.

Now, we will notice colony No. 7, as I had but that one left. It was suspended upon a rack by cleats screwed to the sides of the hive. The bottom of the hive was cut slanting with the bottom-board suspended on wires, leaving a full inch space all around for ventilation, and rolling off dead bees and chippings from the body of the hive. This principle was once patented, and has one very important feature—that of copious ventilation. No disease ever invaded this colony to decimate its ranks or destroy its vigor. During 19 years of consecutive bee-life, it sent forth 17 prime swarms and produced 16 boxes of honey of 26 pounds each. This amount of honey is insignificant when compared with modern methods of obtaining surplus, but in those days we never worked our bees for profit.

In 1858 I adopted the Langstroth hive for my own use, and I found many advantages in its copious entrance, 10x⅜ inches, in the way of expelling impurities, keeping the combs and cluster dry, and permitting the foul gases to escape without upward ventilation. In truth, I am almost in full sympathy with Mr. Clarke's theory of downward ventilation, but not so with his hibernation theory, which I consider entirely mythical. No cluster of bees ever hibernated, and never will, according to his own definition of "complete or partial torpor." When bees cluster for winter, they not only obey the laws of nature, but accomplish the imperative duty of self-preservation. In cold weather, all stores consumed by a colony is carried or kept in the centre of the cluster where it is not only kept warm, but convenient for immediate use. When the mercury vibrates below zero, great activity prevails within the cluster, and larger quantities of honey are consumed to keep up the animal heat, and to raise the temperature in the hive. This is why more honey is required for out-door than in-door wintering; and this is why there is so much non-activity among bees that are contending against the element, than those enjoying a temperature of 45° beyond the reach of frost and snow.

If Mr. Clarke desires to make his hibernation theory a success, he should be careful, after manipulating the honey-bee into a state of profound torpor; as on page 760 of the Bee Journal for 1884, he requires the same honey-bee to rise upon its tip-toes in the cluster and fan out the cold air in the hive as they fan it in in the summer, thereby regulating the temperature. This may do very well for kite flying, but it will cause a visible smile on the face of every practical bee-man in the land.

Athens, Ohio.

For the American Bee Journal.

Hibernation or Quietude, Which?

JAMES M'NEILL, (110—220).

I am glad to learn through the article entitled "A Would-be Critic," on page 148, that the purpose which I had in view, in my article on page 39, has been at least partially accomplished. In the first place I felt that the dignity of reading bee-keepers demanded that a protest be made against the mental pabulum with which Mr. Clarke was feeding us. In the second place, it appeared to me that I would be doing Mr. Clarke, no less than bee-keepers generally, a service if I should present the subject in such a light as would lead him to take a more rational view of the importance of his discovery; and to this end I endeavored to hold the mirror up before him, that the prayer of Burns might be answered in his behalf:

> "Oh wad some power the giftie gie us
> To see oursel's as others see us!
> It wad frae monie a blunder free us,
> And foolish notion."

As Mr. Clarke concedes that it would have been "chust as weel," if he had announced his assumed discovery in a less excited manner, I take it that he has seen himself, in a degree at least, as others see him, and has profited by the reflection.

He says: "I am blamed for not making careful and prolonged experiments;" and then proceeds to vindicate the haste with which he announced his discovery. Evidently Mr. Clarke has an ambition to shine among the lights of the bee-keeping world, but he should remember that such lights, to be valuable, should be reliable. They must cast their reflection forward as well as backward. He who would lead others should first make himself familiar with the road which lies before him; for a high authority says that "if the blind lead the blind, both shall fall into the ditch."

Prof. Cook, in his Manual, page 20, while paying a tribute to Mr. A. I. Root's service in the advancement of apiculture, nevertheless regrets "that he often so stoutly praises that with which he has had so brief an experience, and must consequently know so little." The same excellent authority, in an article in "Gleanings," entitled "The Danger of Hasty Conclusions," takes Mr. Hutchinson to task for publishing his seeming success in wintering bees in a clamp, so confidently. "Such reports," he says, "are premature, and mislead, and do much damage. Mr. H. says that two of his neighbors are his companions in suffering. I doubt not that there are scores; for Mr. Hutchinson is an extensive writer, and his words have weight. . . . It seems to me that in our writings we cannot be too careful in with-holding conclusions till a generous number of examples makes a real demonstration. Beecher is reported to have said that his greatest fault is 'slopping over,' a rude phrase, but it may well apply to some of us writers." I would commend these words of wisdom to the consideration of Mr. Clark, especially if he aspires to be a leader of thought among reading bee-keepers.

In replying to my assertion that he has furnished no demonstrable proof that bees hibernate, Mr. Clarke says: "I have furnished demonstrable proof that bees relapse into a state of torpor or semi-torpor, quiescence or dormancy." Observe the latitude which he gives himself here. Torpor, semi-torpor, quiescence—like the three degrees of comparison, good, better, best, are all-embracing. If this be his idea of hibernation, we stand on common ground, and there is, on this point at least, no controversy between us; and although I repudiate his implied accusation, that I have misrepresented his position, as merely insisting on what bee-keepers have almost unanimously agreed to be the normal winter condition of bees, viz: quietude, his own words now clear me from any such charge; for quiescence and quietude are identical in meaning, and may be defined as a state of rest or repose.

But this is not the idea which he attaches to the word hibernation, for on the next page he defines his position explicitly, where he says: "1. Bees naturally fall into a condition of torpor, scientifically known as hibernation, during winter." Now, has Mr. Clarke furnished us with demonstrable proof that the normal condition of bees in winter is a state of torpor, as contradistinguished from a state of quietude? Most clearly he has not. To say that hibernation, as lastly defined by Mr. Clarke, is demonstrably proved because the bees were quiet, consumed little honey, and came out in good condition in the spring, is certainly very illogical; for the question still remains: Were the bees in a state of torpor, or merely in a condition of quietude?

Just here I would like to raise the inquiry, what is the scientific meaning of the word hibernation? Webster defines hibernation, "to winter: to pass the season of winter in close quarters, or in seclusion as birds or beasts." If this be the real scientific meaning of the word, Mr. Clarke has truly made a wonderful discovery. Fancy the cudgeling of brain with which the student of apiculture of some future generation, in consulting the great lights of our own day, will strive to account for the fact that in the year 1884, W. F. Clarke announced to the world as one of the most important discoveries which had yet been made in apiculture, that bees actually pass the season of winter in close quarters, or in seclusion.

In concluding his article, Mr. Clarke says: "One thing is certain, it (hibernation) was not recognized as such, and among the multitudinous methods of wintering, was not so much as named." In correction of this assertion, I would refer Mr. C. to the "Kansas Bee-Keeper" for April 1883, where Mr. Heddon uses the word, and also to the BEE JOURNAL for 1879, page 278, where the word hibernate is used.

In conclusion I will say that while I would not pluck one leaf from the laurels of the patient, faithful, laborious investigator in any department of science, I am not disposed to render homage to any one who appears more anxious to be crowned than to wear his laurels worthily.

Hudson, N. Y.

* * *

For the American Bee Journal.

The Wintering Problem Solved.

HILAS D. DAVIS.

I have successfully wintered my bees for the past three winters. In 1882, I had 64 colonies; in 1883-84, I wintered 84 colonies; in 1884, I packed in my bee-yard 109 colonies, among them 12 queen-rearing nuclei, none of them containing over three pints of bees. One of this number starved, as there were not bees enough to move the cluster to where there was honey, on account of the steady cold weather this spring. This winter I tried to test the wintering qualities of the hive (which I call the New England No. 7), and my method of feeding, and I have lost but one colony in that hive during the three years, and that was one of the twelve nuclei.

The hive that I use (the New England No. 7 hive) is one upon which I have been employed for a number of years, and embodies many and oft-repeated experiments. The hive is constructed in sections, the cap, two sections and the base. The brood-nest is disconnected from the hive, being separated therefrom both beneath and at the sides, so that it can be removed without any disturbance of the outer case. The space between the brood-nest and the hive is packed during the entire year with buckwheat, India-wheat, dry sawdust, or any material that is dry and fine. The object of this packing is to protect the bees from the extremes of both heat and cold. The packing beneath the brood-nest is serviceable during winter, in that it inclines the bees to seek the bottom of the hive (which is the warmest part of it) instead of the top. In this case, when the bees drop from the combs they do not die of exposure, but finding a place among the cluster, they are warmed and revived. It is also an advantage to have bees at the bottom of the hive in spring, as they then protect the brood above, from the draughts of air.

In this locality, the last harvest of honey is gathered from basswood. As soon as the surplus from basswood is sealed, I remove it and put a set of extra combs in its place. I then feed strictly pure granulated sugar syrup (in the proportions of 4 pounds of sugar to one quart of water) until the combs are filled therewith. In preparing this food, I pour the water in a boiling state, upon the sugar, and stir it until it is dissolved. Having these combs filled at this time in the season, it serves the double purpose of stimulating bees to rear young brood for winter use, and also to thoroughly ripen the sugar syrup which is of the utmost importance. On no account should any but an expert attempt late feeding which, as a rule, is unadvisable and a detriment to the bees.

Before the fall harvest of honey is gathered, I remove these combs filled with sugar syrup, to the storehouse, and also lift out of the brood-nest all of the frames of honey that are not filled with brood, replacing them in the centre of the brood-nest with empty combs or frames filled with comb foundation. If the bees gather a large quantity of fall honey, the bee-keeper must use his judgment in the matter, supplying room for surplus.

After the colonies have finished storing fall honey, and the brood is all hatched, I remove the fall honey to the storehouse, keeping it for another season for the young colonies to use while rearing brood. In place of this fall honey thus removed, I give combs filled with sugar syrup. Upon this the colonies will feed during the winter. As a final arrangement, I lay two one-inch-square sticks crosswise over the frames to enable the bees to pass from one comb to another; then I cover them with two thicknesses of burlap or porous cloth, and cover the whole with packing, such as has been described, to the depth of 4 inches, excepting over the centre of the brood-nest. Thus fed and packed on the summer stands, no colonies need be lost during winter.

On Nov. 15, 1882, I put into the cellar a number of colonies of bees, in old hives with movable frames, which were fed on sugar syrup. By some mistake one colony was left in the cellar until June 29, 1883, when I was informed that there were bees in the cellar; and upon examination I was astonished to find the colony in a perfectly healthy condition, lively, and no traces of diarrhea, which was remarkable as the colony, which was a small one, had been confined about 224 days, and was removed from the cellar when my other bees were nearly done swarming. It was amusing to see what a grand flight they had after their long winter's repose.

In this connection I will give my method of transferring bees. I do not transfer them until late in the fall, when the hive is the most free from brood, and when I am preparing them for winter. I then drum out the bees, running them into a hive containing a set of combs filled with sugar syrup. If there be any brood in the hive, I cut it out and transfer it into frames, placing it in the centre of the brood-nest, after which I pack and prepare the bees for winter. There are valuable features in this method. First, one is not obliged to stop during the busy season to attend to this work. Second, as all bee-keepers are aware, if the bees are transferred in the spring, and the season proves a poor one, while the expert may overcome this and build up in time for winter, yet with the beginner, disastrous results are almost certain to follow on account of the bees not properly building up in time for winter.

While I consider strictly pure sugar-syrup in combs, properly sealed, the best thing for winter stores (pure clover and basswood honey which are free from fall honey, are good, but more expensive), yet I would caution all never to allow one ounce of it to be placed in with the surplus honey.

All of my bees have had a flight, and are in good condition. I have no frosty brood-nests, moldy combs, or dead bees in my yard. I have mastered the wintering problem. With proper food, fed at the proper time, and with a faithful manager, and a properly constructed hive, there is no need of any loss among bees.

Bradford, Vt.

For the American Bee Journal.

Northeastern Kentucky Convention.

Met in Walton, Ky., on April 1, 1885. The Secretary being absent, Mr. John T. Connly was appointed Secretary pro tem. The minutes of the previous meeting and also the Treasurer's report were read and approved. As the election of officers was in order, the President and Secretary were re-elected until the semi-annual meeting on Sept. 23 and 24, 1885.

The Rev. L. Johnson, President of the Kentucky State Bee-Keepers' Society, reported that the average loss for the northern part of the State during the past winter, is not less than 30 per cent. Yet the outlook for bee-keeping is not discouraging, as all are looking forward for a season of at least average prosperity. Many questions of importance to bee-keepers were asked and answered.

All who were present were highly pleased with a nice exhibit of choice comb and extracted honey, being the product of Rev. L. Johnson's fine apiary. He also had on exhibition some colonies in observatory hives, showing his choice Italians and Syrio-Albino strains of bees, which were handsome enough to animate any bee-keeper or any admirer of the beautiful.

Mr. J. T. Connly read an essay on "How to Prepare and Winter Bees on the Summer Stands," and the Association unanimously requested him to prepare the same for publication.

Rev. L. Johnson read a very instructive essay on "The Possibilities of Bee-Keeping in Kentucky."

President McVean made many good, practical suggestions, and every member of the Association, as well as the visitors, expressed themselves as having been benefitted by the meeting.

The Convention donated to the Odd Fellows' Lodge $2.00 for the use of their Hall, which they had kindly offered to the bee-keepers. The Convention then unanimously voted to adjourn to meet with the Kentucky State Bee-Keepers' Society in Covington, Ky., on Sept. 23 and 24, 1885.

J. T. CONNLY, Sec. pro tem.
P. MCVEAN, Pres.

Local Convention Directory.

1885. *Time and place of Meeting.*

Apr. 18.—Marshalltown, at Marshalltown, Iowa
J. W. Sanders, Sec., Marshalltown, Iowa.

Apr. 18.—Eastern Indiana, at Richmond, Ind.
M. G. Reynolds, Sec., Williamsburg, Ind.

Apr. 23.—Union Ky., at Eminence, Ky.
G. W. Demaree, Sec., Christiansburg, Ky.

Apr. 23, 24.—Western, at Independence, Mo.
C. M. Crandall, Sec., Independence, Mo.

April 24.—Portage County, at Ravenna, O.
L. G. Reed, Sec., Kent, O.

Apr. 25.—Union, at Earlham, Iowa.
M. E. Darby, Sec., Dexter, Iowa.

Apr. 28.—DesMoines County, at Burlington, Iowa.
Jno. Nau, Sec., Middleton, Iowa.

May 2.—Central Illinois, at Jacksonville, Ill.
Wm. Camm, Sec., Murrayville, Ill.

May 5.—W. New York and N. Pa., at Cuba, N. Y.
W. A. Shewman, Sec., Randolph, N. Y.

May 4.—Linwood, Wis., at Rock Elm Centre, Wis.
B. Thomson, Sec., Waverly, Wis.

May 7.—Progressive, at Bushnell, Ills.
J. G. Norton, Sec., Macomb, Ills.

May, 7, 8.—Texas State, at McKinney, Tex.
W. R. Howard, Sec., Kingston, Tex.

May 12.—Cortland Union, at Cortland, N. Y.
W. H. Beach Sec., Cortland, N. Y.

May 19.—N. W. Ills., and S. W. Wis., at Davis, Ills.
Jonathan Stewart, Sec., Rock City, Ill.

May 28.—Mahoning Valley, at Newton Falls, O.
E. W. Turner, Sec., Newton Falls, O.

May 28.—N. Mich. Picnic, near McBride, Mich.
F. A. Palmer, Sec., McBride, Mich.

May 29.—Haldimand, Ont., at Nelles' Corners, Ont.
E. C. Campbell, Sec.

June 19.—Willamette Valley, at La Fayette, Oreg.
E. J. Hadley, Sec.

Dec. 8—10.—Michigan State, at Detroit, Mich.
H. D. Cutting, Sec., Clinton, Mich.

SELECTIONS FROM OUR LETTER BOX

Destroying Ants in the Apiary.—M. H. Berry, Dover South Mills,⊙ Maine, gives the following remedy:

For 28 years I have used gum camphor, and it never failed to drive them away. Put it in the hive or on the edges of the bottom-board, and it can be used in the honey-house as well. I would like to have bee-keepers try it and report through the BEE JOURNAL.

Report, from A. Crosby, Kennedy,♀ N. Y., on April 6, 1885:

My bees are coming out much better than I expected, as the late pleasant days have given me an opportunity to examine them, and to find out the true state of affairs. Heavy losses are reported in this section.

Storing Empty Combs, etc.—W. S. Pierson, Eureka,⊙ Mich., on April 6, 1885, writes thus:

Last fall I had 64 colonies of bees, some in double-walled hives, and some in boxes packed in chaff on the summer stands, and 50 of them have starved with from 10 to 25 pounds of honey in each hive. 1. Can I extract the honey, boil it, and thus make it fit for table use? 2. How can I keep my empty combs through the coming summer, as I wish to work my bees for increase only? 3. What is the best method of getting increase?

[1. The honey was not injured because the bees starved without being able to reach it. It is just as good for table or any other use, as it ever was.

2. Keep the combs in a tight box, and fumigate with sulphur to kill the moths, if they have been exposed.

3. On page 148 you will learn how to get increase judiciously.—ED.]

Report, from E. C. Crane, Hillsboro,∽ Iowa, on April 6, 1885:

I put into winter quarters 37 colonies in apparently good condition, and took out 33 which seem to be all right now, and are carrying in pollen. On April 5, I put sawdust in the cellar for winter packing. I think that the cellar is the best place to winter bees. The bees in this locality are all dead, a great many of them having frozen. I use the Quinby improved hive.

Report, from R. A. Calvin, Hartford,♀ Mich., on April 4, 1885:

Last fall I packed 88 colonies as described on page 644 of the BEE JOURNAL for 1883, and so far I have lost 35 colonies. Only 8 or 10 showed any signs of diarrhea. A number of them starved, and others dwindled with plenty of honey.

Report, from Ira Barber, DeKalb Junction,♂ N. Y., on April 2, 1885:

I removed all my bees home last fall, and I have them now in the old cellar that I commenced wintering bees in nearly a quarter of a century ago. Although the cellar is cool, to all appearances the bees are in fine condition. I have tested the cellar at three different times during the past winter, and the temperature has varied but three degrees. The first was on Dec. 20, 1884, when the thermometer indicated 17° above zero outside, and 47° in the cellar; on Jan. 20, 13° below zero outside, and 45° above in the cellar; and on March 30, 45° above zero outside, and 48° above in the cellar. I cannot account for the slight difference in the last test, unless it was caused by the extreme cold weather for two weeks previous. I took 220 colonies out of winter quarters last spring, sold 18, commenced the honey season with 200, increased them to 212 colonies, obtained 8,000 pounds of comb honey, sold 12 colonies last fall, and placed the remaining 200 colonies in the cellar on Nov. 20, 1884, although 5 of them were badly broken in moving. When the bees are out of the cellar I will try to report the difference in wintering with very high and with medium temperature. I have made no examination as to the amount of honey the bees are consuming, but I am quite certain that they have used less than if wintered in an extremely high temperature. We have plenty of snow in this section yet. There are drifts 4 feet deep in my bee-yard now.

Report, from Wm. Morhous, Dearborn,∽ Mich., on April 2, 1885:

I have secured reports from ten of my neighbors, and I find that out of 232 colonies, which, last fall, they and myself prepared for winter, we have only 12½ colonies left. I do not know of a live colony of bees within 5 miles of here, excepting one man who, I hear, had 15 colonies buried under a snow-drift, and lost only one, and that was by starvation.

Report, from Wm. Anderson, Sherman,o+ Mo., on March 31, 1885:

I have wintered 19 colonies out of 30. Seven colonies froze to death with at least 20 pounds of pure buckwheat honey in the hives, and 4 starved; the remaining colonies are in good condition, except that they are robbing some. I have been trying to stop it, but with poor success. The weather is pleasant now.

Report, from S. D. McLean, Columbia,⊙ Tenn., on April 2, 1885:

Owing to the drouth of last autumn, bees gathered no honey from fall blooms, and consequently entered winter in poor condition. The result has been, that those, all over the country, who failed to feed liberally, have lost many bees. The severity of the weather doubtless increased the mortality, for the winter has been long and cold. There is not a bloom from peach or plum, or any other fruit trees yet—a thing most remarkable for this latitude. But the dreary winter is over, and genial spring has come to open nature's store-house and bid the bees, with all living, to accept the bounty freely offered. This is an encouraging thought to the apiarist.

Report, from S. Shoup, Coloma,♀ Mich., on April 1, 1885:

The past winter has been a terrible one on bees, through this section of this State. As near as I can learn, 3-5 of all the bees are dead.

Honey-Dew for Winter Stores.—H. R. Boardman, East Townsend,♂ O., reports as follows:

I finished putting out my bees on April 1, in fine condition. They were put in from Nov. 18 to Nov. 20, there being in all 400 colonies in three localities, which were placed in two bee-houses and one cellar under a dwelling house. I feel quite elated at not having forfeited my reputation for wintering successfully, during this disastrous winter. The winter losses will be very severe throughout this part of the country, and of those wintered out-doors in the old-time way, very few will be left. I notice by looking over the reports, that the winter losses are almost invariably attributed to honey-dew which was stored in such unusual quantities last season. I have demonstrated to my own satisfaction that honey-dew is not necessarily fatal when used as winter stores, as it constituted the principal part of the stores upon which my bees have wintered so nicely. I wished to make the matter very clear in my own mind, and among other experiments I fed up several colonies last August on the genuine "bug juice," first removing all combs, and in one colony I only supplied empty frames so that the combs were also built up from this questionable food. These colonies came out in as fine condition as the very best, although I had others upon which I was experimenting, that were fed up wholly on sugar syrup.

Report, from Wilson Sherman, Chester Centre,⊙ Iowa, on April 4, 1885:

After a confinement of 131 days, on March 26, I took my 12 colonies of bees from the cellar, and 10 of the 12 were alive and in splendid condition; 2 had died with the diarrhea. The cellar in which they were wintered was dug last fall, and it was walled up with brick late, and the mortar did not have time to dry, so the cellar was very damp. If it had not been so damp I think that I would not have lost any, as the two that died were very damp and moldy. The cappings had cracked, and water run in and soured the honey, thus causing their death. The mortality of bees in this part of the country has been very great. Those that were left on the summer stands are all dead, and also a large share of those wintered in the cellars have perished.

Report, from R. R. Murphy, Garden Plain,~o Ills., on April 3, 1885:

My bees have wintered well. I lost only 4 colonies out of 136, and they starved. They were wintered in a bee-house. Those that were out-doors are mostly dead, or very weak. Mine are all strong colonies, having wintered splendidly. The main point in in-door wintering is putting the bees in before there is any frost formed in the hive. During the past three winters my bees have begun breeding in January, and then came out as strong or stronger in bees than when put in.

Report, from L. L. Triem, La Porte City,⊙ Iowa, on April 4, 1885:

Wintering bees in cellars has proven the best here, as far as heard from. I have 165 colonies in splendid condition, each of which are occupying 5 and 6 spaces in 8-frame hives.

Report, etc., from W. L. Coggshall, (250), West Groton,♀ N. Y., on April 3, 1885:

Bees had a flight on April 1. Mine are packed in sawdust with 4 to 10 in a box, with a slot cut in the boxes for entrances. I examined the colonies in two bee-yards of 75 each, and I found 3 dead. I find a good many dead bees under the hives and around the entrances. I hear the box-hive bee-keepers have lost one-half of their bees. Messrs. Dadant & Son, page 165, expressed my views exactly on the drone-trap. In my opinion they are not worth the room they occupy, to a man who is producing honey. I was taught that the best way to get along with trouble is not to get into trouble, so I do not rear drones.

Severe Losses of Bees.—H. Hance, Bryan,~o O., on March 30, 1885, says:

The loss of bees in this section is very heavy. Out of 680 colonies belonging to 26 of my neighbors, only 115 colonies are left, many of them losing all. So far, my own loss is 39 colonies out of 72. Some of my bees froze, some had the diarrhea, and some starved on account of being unable to get to their stores. Bees were wintered in various ways here—some were in cellars, some were well packed, and some not packed at all, but all fared about the same. I say, do not give up; although our ship be wrecked, let us launch another and endeavor hereafter to steer clear of the disastrous reefs.

Report, from H. T. Hartman, Freeport,~o Ills., on April 3, 1885:

At last my bees are on the summer stands again. They were in the cellar 4½ months, and came out in much better condition than I had expected they would. Out of 82 colonies, only 4 were dead, and 2 of them had starved. They are nearly all in good condition. Bees that were wintered on the summer stands, in this section, are nearly all dead. One bee-keeper here only had 3 left out of 100 colonies; and another, 3 out of 27. Some who wintered their bees in cellars have lost quite heavily. The most of the cellars were too cold. The temperature of my cellar was kept at 45° above zero, by means of artificial heat. I have to-day put out rye meal for the bees, and it was not long before it was swarming with bees. This will stimulate brood-rearing, and will also prevent robbing, and keep the bees at home. I have always used it with success.

Report, from J. P. Hensley, Grand Island,⊙ Nebr., on April 3, 1885:

I packed one colony with chaff in a Heddon hive on Oct. 26, 1884. On Feb. 26, they had a good flight, and to-day I unpacked them, and they are in splendid condition. The mice killed about a quart of bees in February, and I unpacked them and moved them into a room in my house, where I had them for 7 days, after which I returned and repacked them, and to-day they are all right.

Report, from M. E. Darby, Dexter, ⊙Iowa, on April 1, 1885:

From 75 to 90 per cent. of the bees in this vicinity have succumbed to King Boreas. My own loss is comparatively light—2 per cent. of those wintered in the cellar, 35 per cent. of those in clamps, and 95 per cent. of those on the summer stands unprotected.

Report, etc., from J. O. Shearman, New Richmond,♀ Mich.:

I have noticed the same symptoms as mentioned on page 196, in a number of bee-yards during the years 1876, 1880, and 1881, excepting as in the sugar-fed colonies mentioned on that page. Bees cannot withstand such protracted cold on sour honey, and the sugar-fed colonies might have been fed syrup too thin or too late, or both. So far I have lost 8 colonies (4 of which starved) out of 130.

Report, from F. Searles, Marley,δ Ills., on April 3, 1885:

My colonies are all on the summer stands again. I put them into the cellar about the middle of last November, and I took them out on April 1. I found that 2 colonies had starved, leaving plenty of pollen but no honey. Last fall I put in 110 colonies, and 108 of them were in fine condition when I took them out. I leave all the bottom-boards and the caps in the bee-yard, taking only the brood-chambers with the bees. I raise the first ones 10 inches from the cellar bottom, and then I put some short pieces of 2x4-inch scantling on them, and lay some boards on these, and pile up the hives as high as I can reach. The air can then circulate all through them. I use no quilts, and some of the slats are removed from every honey-board. I have never lost 10 colonies with the diarrhea in the 30 years that I have kept bees. My cellar has no ventilation, except what there is around the cells and the door, and what air gets in when entering for apples, vegetables, etc., which occurs from 1 to 6 times a day. If the bees have plenty of good honey and pollen, I have no fears about wintering.

Not Lost One Colony.—Jno. L. Comstock, (2—9), Sac City, Iowa, on April 6, 1885, writes:

My bees have wintered splendidly. I took them out of the cellar on April 1, and they now have young brood and plenty of eggs. I thought of grinding some rye for them for pollen, because I went to feeding sugar syrup as soon as I put them on the summer stands; but I will not have to grind any, as they go into our flouring mill and help themselves. They seem to get lots of pollen around the mill. I watched several of them to see them work on mill-dust, on April 4. I commenced last spring with 2 colonies, and I put nine into the cellar. They all came through strong.

Special Notices.

☞ Those in want of Bees should notice that the whole apiary of the late Mr. L. James, of Atlanta, Ill., is to be sold at Auction next Tuesday.

◆

☞ Our rates for two or more copies of the book, "Bees and Honey," may be found on the Book List on the second page of this paper. Also wholesale rates on all books where they are purchased "to sell again."

◆

☞ We want one number each of the BEE JOURNAL of August, 1866—February, 1867. Any one having them to spare will please send a Postal Card. We will pay 50 cents for one copy of each of the two numbers.

◆

☞ The Farmer's Account Book contains 166 pages, printed on writing paper, ruled and bound, and the price is $3.00. We will club it and the Weekly BEE JOURNAL for a year for $4.00. If you have already sent us $2.00 for the Weekly BEE JOURNAL for a year, we will send the Book for another $2,00, making $4.00 in all. If you want it sent by mail, add 20 cents for postage.

◆

☞ We want one number of the Weekly for 1884—May 28. Will any one who does not bind them, write a Postal Card saying what they will take for it? Do not send it until you hear from us, that we are not already supplied.

◆

☞ The next meeting of the Union Bee-Keepers' Association of Western Iowa, will be held on April 25, 1885, at Earlham, Iowa.

M. E. DARBY, Sec.

☞ **Preserve your papers** for reference If you have not got a Binder we will mail you one for 75 cents, or you can have one FREE if you will send us 3 new yearly subscriptions for the BEE JOURNAL.

☞ For two subscribers for the Weekly BEE JOURNAL (or 8 for the Monthly) for one year, we will present a Pocket Dictionary, and send it by mail, postpaid.

Advertisements.

350 Colonies

— OF —

Italian Bees for Sale!

Full colonies, Nuclei, Tested and Dollar Queens. Circular on application.

J. H. & W. ROBERTSON, - PEWAMO, MICH.
15Atf

For Sale 1,500 Wired Combs, straight and perfect. Size, 17⅝x9⅛; also 100 to 200 colonies, and a 9-inch Dunham Foundation Machine. **R. HYDE, Alderly, Wis.**
15A2t

25 **Strong Colonies Italian Bees** in L. Hives for Sale Cheap. Write at once to C. W. KING, Kibbie, Van Buren Co. Mich.
15A1t

Hybrid Bees For Sale!

I WILL sell a few strong colonies, carefully fitted up for transportation, and delivered at the depot here, in good 10-frame Langstroth Hives, and honey enough to last until flowers come, for $10 each. Will also **SELL SWARMS** during swarming time.

R. K. McCUNE, Fairwater, F du Lac Co. Wis.
15A1t

PURE IMPORTED ITALIAN QUEENS!

WE shall receive an early shipment from MONTE FIORITO, ITALY. We shall be pleased to book orders for them.

15A2t **MUCCI & BRO, Lexington, Ky.**

50 Colonies of Black BEES for Sale

In Movable-Frame Hives. Will sell at A BARGAIN.

J. J. QUINN, - Henderson, Ky.
15A1t

Sliced Sections!

ONE-PIECE, V-GROOVED.

THEY are *perfect in every respect.* Took the first premium at the Michigan State Fair last Sept. Every apiarist who uses them once, wants no others. Will send two samples by mail for 4 cts. postage, or a sample thousand, 4¼x4¼ for **$4.00.** The list price is $4.50 per 1,000—$21.00 per 5,000—$40.00 per 10,000. Send for Circular, etc. Supply dealers will do well to correspond with us.

Address, **BERLIN FRUIT BOX CO.,**
14A3t **Berlin Heights, Ohio.**

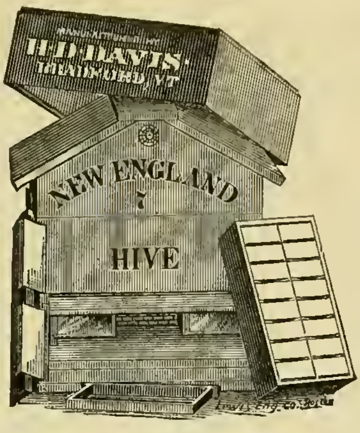
1879. —ITALIAN— 1885.

QUEENS!

FOR ITALIAN QUEENS in their purity, and that cannot be excelled, **Comb Foundation** and **Supplies** generally, send for Circular.

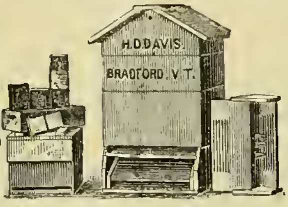
12 UNTESTED QUEENS FOR $11.00.

15Atf **T. S. HALL, Kirby's Creek, Ala.**



New England No. 7 Bee-Hive

We warrant it to be without an equal as a practical hive for general use.


H.D.DAVIS.
BRADFORD, V.T.

We furnish at short notice APIARIAN SUPPLIES of every description.

We guarantee if directions are carefully followed, that not ONE COLONY need be lost during winter with this hive

WE manufacture and keep in stock white Poplar SECTIONS of all sizes of the finest quality and at bottom prices. We guarantee satisfaction. Don't purchase until you send for our Circular and prices. Send 4-cent stamp for sample Sections. Circular free. Address,

HILAS D. DAVIS, Bradford, Vt.
15A1t 5B1t

BEES FOR SALE!

100 **COLONIES OF ITALIAN BEES** that have been bred for working qualities; many of them **STRONG**, having gathered 125 lbs. of No. 1 honey the past poor season, and most of it from a distance of from 2 to 4 miles. They are in our 8-frame Langstroth Hives, and will be sold in the hives complete, if desired. Also

150 COLONIES of BROWN GERMAN BEES,

in 9-frame Hives; frames, 10x13 inches. All strong colonies. Address,

A. J. & E. HATFIELD, SOUTH BEND, IND.
14A2t

DUNHAM AND VANDERVORT FOUNDATION.

WE have bought a large stock of **Choice Yellow Beeswax,** and can furnish Dunham Comb Foundation for brood comb for **50c.** per lb. Thin Dunham for Sections, **55c.** per lb. Extra thin Vandervort, 10 to 12 square feet to the lb., **60c.** per lb. Will work up wax into Foundation for **10, 15 and 20c.** per lb. To induce our customers to order Foundation **early** in the season, we will allow **10** per cent. discount on all orders received before the 1st of May.

F. W. HOLMES,
9D9t COOPERSVILLE, Ottawa Co., MICH.

Bee-Keepers' Supplies.

We have added to our LARGE FACTORY a SPECIAL DEPARTMENT for the

Manufacturing of Bee-Hives,

AND

White Poplar Dovetailed SECTIONS. Also, One and Two-piece

☞ All Orders will be filled promptly at the

LOWEST FIGURES,

Send Stamp for Catalogue and Samples.

The H. F. MOELLER M'f'g Co.
1A26t DAVENPORT, IOWA.

GEO. GRIMM, of Jefferson, Wis.,

Will sell **300 to 400**

COLONIES OF BEES

In the **8-Frame Langstroth Hive** at the following prices:

Pure Italians,	1 to 5	$6 50
" "	5 to 20	6 00
" "	20 or more	5 75
Hybrid Italians,	1 to 5	5 75
" "	5 to 20	5 25
" "	20 or more	5 00

TERMS and Conditions as follows: Orders will be booked only when accompanied by the **Cash,** and will be filled in their proper turn. I will ship some time in the month of May, and the exact date must be left in my discretion to be governed by the circumstances and the weather. Will notify before shipment. Will **Guarantee Safe Arrival** at last Express Station, and will guarantee satisfaction. 9D4t

100 Colonies of Choice **ITALIAN BEES FOR SALE.** Send for Price-List. Address,
W. J. DAVIS, (Box 91)
14A9t Youngsville, Warren County, Pa.

BE SURE

To send a Postal Card for our Illustrated Catalogue of APIARIAN SUPPLIES before purchasing elsewhere. It contains illustrations and descriptions of everything new and valuable needed in an apiary, at the lowest prices. Italian Queens and Bees. Parties intending to purchase Bees in lots of 10 colonies or more, are invited to correspond.

J. C. SAYLES,
1D15t 2B5t HARTFORD, WIS.

6 SYRIAN QUEENS, WARRANTED PURELY MATED for $6

Single Queen, $1.25. **Tested Queens,** $3.00 each. **Italian** Queens at the same prices. 4 L-frame Nuclei, with Tested Queen, $5.00.

10D4t **I. R. GOOD, Sparta, Tenn.**

SOMETHING NEW!

THE Best-Made, handiest and cheapest combination,

Summer and Winter Hive

in the market. Send for Catalogue of general **APIARIAN SUPPLIES.** The best white poplar **SECTIONS** and pure yellow beeswax. **COMB FOUNDATION** a specialty.

Full Colonies, Nuclei Colonies and

QUEENS for SALE.

Be sure to send for 25th Annual Price List, before making your purchases for 1885.

Address **WM. W. CARY, Jr.**
COLERAINE, MASS.
3Dtf Successor to Wm. W. Cary & Son.

Headquarters in the West

FOR APIARIAN SUPPLIES!

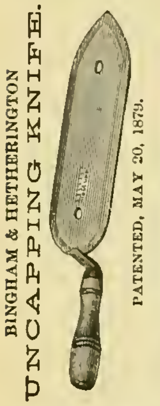
Of every description. Special attention given to the **V-groove Section.** Send for our 1885 Price-List before purchasing elsewhere.

BRIGHT BROTHERS,
10D4t MAZEPPA, Wabasha Co., MINN.

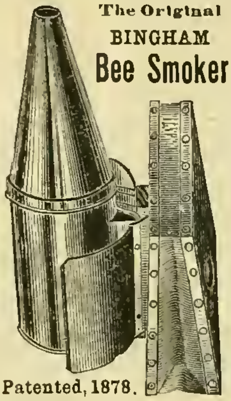
QUEENS **Send for Price-List of** Italian & Holy-Land Queens for **1885.** BEES by the pound, nuclei and full colonies. **J. C. MISHLER,**
11D6t **Ligonier, Noble County, Ind.**

ITALIAN AND CYPRIAN BEES; tested and untested **QUEENS,** Honey Knives, Extractors, Cook's and Root's Bee-Books, Smokers and Bee-Keepers' Supplies furnished. Address,
OTTO KLEINOW (opp. Fort Wayne Gate)
13D2t 5B1t DETROIT, MICH.

VALUABLE
ORIGINAL PATENTS.


BINGHAM & HETHERINGTON
UNCAPPING KNIFE.
PATENTED, MAY 20, 1879.

The Original
BINGHAM
Bee Smoker



Patented, 1878.

Prof. Cook, in his valuable Manual of the Apiary, states that "Mr. Bingham was the first to improve the old Quinby smoker by establishing a direct draft." Five years of persistent effort has demonstrated that no one but Bingham has been able to improve a Bingham smoker. Hundreds of Bingham smokers have been in use five years, and are yet in working order. They burn lots of blocks and chips and stuff, and make lots of smoke and comfort, and have no dampers or match-box attachments, as they never go out or fail to blow smoke up or down or sideways, much or little, swift or slow, just as you please, any or all the time; top up or down, they always go!

Bee-keepers will save money and vexation by buying genuine Bingham smokers and Bingham & Hetherington Uncapping-Knives first. We neither make nor handle any other supplies; but of these we are the original inventors, and only legal makers, and have had over 45,000 in use from one to five years, and receiving but one letter of complaint.

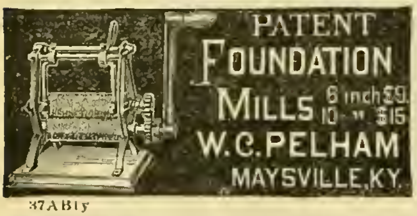
With European and American orders already received for over 3,000, there is evidence that 1885 with us is not likely to be an idle one. Also that such goods as we make have met the advanced wants of the most advanced bee-keepers in Europe and America.

Prices, by mail, post-paid.

Doctor smoker (wide shield)	3½ inch	$2 00
Conqueror smoker (wide shield)	3 "	1 75
Large smoker (wide shield)	2½ "	1 50
Extra smoker (wide shield)	2 "	1 25
Plain smoker	2 "	1 00
Little Wonder smoker	1¾ "	65
Bingham & Hetherington Honey Knife, 2 inch		1 15

TO SELL AGAIN, apply for dozen or half-dozen rates. Address,

BINGHAM & HETHERINGTON,
6A2Btf **ABRONIA, MICH.**



PATENT
FOUNDATION
MILLS 6 inch $9. 10 " $15
W. C. PELHAM
MAYSVILLE, KY.

37ABly

Pure Phenol! I can furnish Pure Phenol for the cure of **FOUL BROOD**, as described by Mr. Frank Cheshire, of London, England. As it is a liquid, it can be sent only by express. Price, 25 cents per ounce, delivered at the express office in Chicago.

ALFRED H. NEWMAN,
923 West Madison Street, CHICAGO, ILL.

60 Colonies of BEES FOR SALE.

For particulars, call upon, or address,
A. L. EDWARDS, SKANEATELES, N. Y.
14Ast 5Blt

Dadant's Foundation Factory, wholesale and retail. See Advertisement in another column.

BEES for SALE AT AUCTION!

THE ENTIRE STOCK and Fixtures of the Apiary of L. JAMES, Atlanta, Ill., will be sold AT AUCTION

On Tuesday, April 21st, 1885.

Will sell at private sale up until day of sale. For further particulars, address,

15A1t **S. B. JAMES, ATLANTA, ILL.**

FOR BEE-HIVES

And a general assortment of **Bee-Keepers' Supplies** send for circular to
51Dtf J. E. PRYOR, Dexter, Iowa.

THE INVERTIBLE HIVE!

INVERTIBLE FRAMES,
Invertible Surplus Honey Cases,
Entrance Feeders, Top and Bottom Feeders,
Hive-Lifting Device, Honey Extractors,
Wax Extractors, Comb Foundation, etc.

☞ My new Illustrated Catalogue is now ready, and will be mailed to all who may apply for it. Address,

J. M. SHUCK,
DES MOINES, IOWA.
10A1y

50 COLONIES
OF BEES FOR SALE!

in Langstroth Hives at $6.00 each, delivered at the Express Office or Railroad Depot. I have been breeding my bees for **honey**, and not for **beauty**; they are mixed more or less with the German brown bees. They have wintered well. Address,

R. R. MURPHY,
Garden Plain, Whiteside Co. Ills.
14A3t

SUMNER & PRIME,
Bristol, Vt.,
BEE-KEEPERS' SUPPLIES.

WE HAVE just completed our Factory, furnished it with the most improved Machinery, and are now prepared to fill all orders for **BEE-FIXTURES** of every description. **WHITE POPLAR SECTIONS** of all sizes a specialty. All orders will receive prompt attention. Send for Catalogue Price-List and samples. 10A12t

THAT NUISANCE!
ALLEY'S DRONE AND QUEEN TRAP.

PLEASE read the opinions of some of the best Apiarists in the World:

FROM A LADY BEE-KEEPER.—"I am well pleased with the traps I got of you last year. Please send me another doz."—Mrs. S. E. Sherman, Salado, Tex.
Your trap is a complete success.—J. E. Pond.
The trap did its work beautifully.—B. F. Newcomb.
I find the trap very valuable.—R. B. Woodward.
The trap works finely.—Chas. E. Dorr.
You have perfected a valuable device. It is a great acquisition to all bee-keepers.—G. L. Tinker.
All one can wish for.—Dr. L. A. Reading.
It is certainly *the* thing.—J. W. Carter.
It works well.—D. B. Reed.
I like your trap. It fills the bill.—G. W. Emerson.
It is ahead of any I have seen.—G. M. Doolittle.
One of the greatest inventions ever given to apiculture.—*American Apiculturist.*
An article the need of which has long been felt by every bee-keeper.—AMERICAN BEE JOURNAL.
I think it must prove a great benefit to every bee-keeper.—J. D. Enas.
A prize to any bee-keeper.—Rev. D. C. Millet.

Directions for using sent with each Trap. Send for Circulars giving prices; also prices of **Queens, Nuclei** and other **Supplies.**

Address, **HENRY ALLEY,**
14Atf WENHAM, MASS.

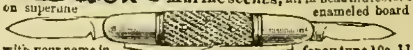
Dadant's Foundation Factory, wholesale and retail. See Advertisement in another column.

40 Embossed and Hidden Name Cards, Hand holding Flowers, &c., Game of Fortune and Present, 10c., 11 packs, Pearl Ring and Handkerchief, $1. BLAKESLEE & CO., North Haven, Ct.
8D6t

40 **Hidden Name, Embossed** and **New Chromo Cards**, name in new type, **an Elegant 48 page Gilt bound Floral Autograph Album with quotations, 12 page Illustrated Premium** and **Price List and Agent's Canvassing Outfit, all for 15 cts. SNOW & CO., Meriden, Conn.**
7D6t

CARDS & KNIFE FREE!

50 different designs **Birds, Swiss Floral, Ivy Wreath, Gold Panel, Sentiment, Oval Embossed, Summer, Winter, Moonlight & Marine scenes,** all in beautiful colors on superfine enameled board



with your name in fancy type 10c. 11 pks and this beautiful Pearl Handle 4-bladed Knife **(for lady or gent)** $1.00 By getting 10 of your friends to send with you, you obtain an elegant knife and a lovely pack of cards FREE.
CAXTON PRINTING CO., Wallingford, Conn.
7D6t

FREE! FREE! **Solid Gold and Silver Watches, Chains, Rings, and 100** other **useful** articles **absolutely Free! 50 Elegant Gold Leaf Embossed and Souvenir Cards** with your **name** in New **script** Type, **10c., 2 packs** and **8 Elegant French Dolls** with **wardrobe** of **82** pieces, **20c 8 packs** and this beautiful **Rolled Gold Ring, 30c.** Our styles of **Imported, Satin Fringe** and **Real Silk Florals are unequaled. Full instructions** how to **obtain** all the above **articles** free, also a **full line of samples free with every order. We want Agents,** and offer **Gold to those who seek it, Agents make $5.00** per day handling **our goods.** Send **at once**; don't **miss** this opportunity as this **offer may not be repeated. Address WEST HAVEN MANUFACTURING WORKS, West Haven, Conn.**
7D6t

50 **LATEST STYLE FLORAL BEAUTIES,** Motto, Landscape and Satin Cards with your name on, also 1 Perfume Sachet, 1 sheet of Embossed Pictures, 1 set of Agent's Samples, Premium List, &c., all for **10c.**; 5 packs, 5 Perfume Sachets, 5 sheets of Embossed Pictures, Agent's Outfit and a **Lovely Rolled Gold Finger Ring for only 50 cents. FRANKLIN PRINTING CO., New Haven, Conn.**
11D4t

40 Hidden Name and Embossed **CARDS** and this Perfumed Satchet for 12c. Samples, 4c. CLINTON & CO., North Haven, Conn.
☞ *We have seen cards from many firms, but none as pretty as those from Clinton &, Co.*
11A10t

W. Z. HUTCHINSON,
Rogersville, Genesee Co., Mich.,

can furnish just as neat, white, smooth and perfect, dovetailed, white poplar sections as there are made. Send for sample and prices.
4Dtf

Bees for Sale Full colonies Italians in Simplicity HIVES (L.) frame, in May, $10; June, $9. Hybrids, $1 less. Satisfaction guaranteed. DR. JOHN S. GATES,
14A6t Wilkinsonville, Worcester Co. Mass.

WEEKLY EDITION
OF THE
AMERICAN
ESTABLISHED IN 1861
OLDEST BEE PAPER IN AMERICA
BEE JOURNAL
PUBLISHED BY
THOMAS G. NEWMAN,
EDITOR AND PROPRIETOR,
925 WEST MADISON-STREET, CHICAGO, ILL.
Weekly, $2 a year; Monthly, 50 cents.

Vol. XXI. April 22, 1885. No. 16.

☞ Quite a number of those who write to this office on business forget to mention the State in which they reside. This makes considerable trouble as there are so many post-offices in every State, with names exactly alike. We have several letters which contained money for books which cannot be filled because of this lack of definiteness in the address. When the stamp of the post-office is readable, trouble is avoided, but too often such stamps are so indistinct that they cannot be read at all.

◆

☞ The *Popular Science Monthly* for April contains a good article on "Apiculture" from the pen of Mr. Allen Pringle, of Canada.

◆

☞ Whatever may be needed in the apiary during the coming season, should be ordered now, in order to have it on hand when wanted. The supply dealers will be able to give personal attention to all orders sent in now, before the *rush* commences.

◆

☞ We regret to learn that Mr. John Aspinwall, one of the proprietors of the *Bee-Keepers' Magazine*, lost his residence and all its contents at Barrytown, N. Y., by fire on Mar. 12.

◆

☞ We have received a new book entitled, "Money in Potatoes," by "Joseph;" which is the *nom de plume* for Tuisco Greiner, with whom our readers are familiar, being one of the "Greiner Brothers of Naples, N. Y.," who have contributed many articles for the BEE JOURNAL, and have been successful in keeping bees. This book shows how to raise "400 bushels to the acre" as a field crop. It is published by the Franklin News Co., of Philadelphia, Pa.

☞ Mr. Moore, of Monroe, La., has sent us a copy of a letter by the bee-men at the World's Exposition, at New Orleans, La., sent to Mrs. Julia Ward Howe, president of the Woman's Department, concerning the bee-hive in the Massachusetts Department from "Lizzie Cotton,' who is "known to fame" as "the woman from Maine." She has a large placard over the hive claiming a very large yield to show its superiority over all others. They reported to Mrs. Howe that there was no *new* feature about the hive, that the woman was from Maine and not Massachusetts, and that she had been repeatedly published as a fraud all over the Country, and asked that the hive be excluded from the Exposition.

Mrs. L. Harrison remarks as follows in the *Prairie Farmer* about this exhibit:

> In the exhibit of Woman's Invention, my eye caught sight of a placard bearing these words: "Mrs. Lizzie C. Cotton's Controllable Bee-Hive and New System of Bee-Management, etc."....Bee-keepers from Maine to Oregon are furious, not at being swindled themselves, but at seeing others, who are not posted, cheated out of their money. This wonderful "Controllable Bee-Hive," consists of a box, with a few movable frames in it, and a division-board each side of them. What part did the renowned "Lizzie" invent? All that is good about it, the movable frame, was invented by L. L. Langstroth. Any one who has not bees enough to fill his hive, can slip in a board to make it smaller.

◆

☞ Mr. F. L. Dougherty gives the following items in the *Indiana Farmer*:

> To all lovers of nature there is much more in a bee-hive than wax, bees and honey.
>
> Now is the time to make up your mind just what you are going to do. Do not hesitate until the season is on, and then expect any grand results.
>
> The white honey crop with but few exceptions is all gathered within the short period of 4 weeks or less time. For successful work the hives must be full of bees and brood at the commencement of the honey-flow.
>
> It is hardly necessary that we should caution the older bee-keepers as to the necessity of having everything in readiness beforehand. Beginners, however, are much inclined to wait until they feel the need of articles before securing them.

◆

☞ In the spring is the best time to move bees, because the honey does not burden the combs, and there is no danger of the combs being melted down by the heat.

☞ Every apiarist who wishes to develop "the best characteristics in the bees," should carefully record the leading features of both the queens and the colonies. This can best be done in an "Apiary Register," which can be obtained so arranged as to give a complete record of 50, 100 or 200 colonies of bees, with two opposite pages numbered to correspond with the number on each hive. This can be referred to instantly, and should contain a full history of the colony. By its careful and constant use the bees may be improved, their most valuable qualities developed, and the products of the apiary greatly enlarged. Should a queen lack any desirable quality, you will in this way soon discover it, and can supersede her. In this Register let all the important facts be noted, and by its complete history of each colony you may systematize all your work, lay it out in advance, save confusion, and inaugurate the best methods and management.

◆

☞ The *Rural Californian* makes the following report concerning the prospects for honey in California:

> Bees are in good condition in southern California—never better at this season of the year. The acacia, willow and blue-gum afford plenty of pollen and honey, and the splendid warm sunshine of the past month has been all that could be desired to bring about a prosperous state of affairs in the apiary. Wild flowers are beginning to bloom—the almond trees are in blossom, and the late sort of peaches are in bloom and covered with bees from sunrise until sundown. It is a singular fact that peaches which ripen in October and November are now in bloom, while the earlier sorts make no show of blossoms as yet.

◆

☞ An Exchange, whose editor was in a funny mood, remarked thus about bees and assessors:

> We hear of great losses of bees this winter. The assessors, at least can find few that are strong enough to tax. What business have assessors to tax bees, anyhow? The only bee in the hive, if there were 10,000 in it, that is old enough to tax, is the queen, and nobody knows whether she is alive or not.

◆

Catalogues for 1885.—We have received the following:

A. M. Gander, Adrian, Mich.
W. H. Proctor, Fair Haven, Vt.
J. D. Goodrich, East Hardwick, Vt.
H. A. Goodrich, Massey, Texas.
F. D. Wellcome, Poland, Maine.—Bees, Nursery Stock, etc.

QUERIES

WITH

REPLIES by Prominent Apiarists.

Fastening Combs in Frames.

Query, No. 51.—What is the best and cheapest way to fasten combs in the frames when transferring bees? If they are fastened with wire will it have to be removed?—S. H. J.

James Heddon says: "First, cut the comb to fit the frame snugly, and run thorns through brad-awl holes previously made in the frame. Second, if they are fastened with wire, it should be removed."

G. M. Doolittle replies as follows: "Melt two parts of beeswax with one part resin, and with a brush dipped in the melted mixture, apply in several places where the comb comes in contact with the frames. A few drops poured from a spoon will answer the same purpose."

Prof. A. J. Cook remarks thus: "First, sticks tied or wired at the ends. Second, it must be removed."

G. W. Demaree says: "I prefer a good article of wrapping twine to fasten combs in frames. Do not wrap the twine round and round, for if the bees chance to cut the twine in one place, the whole will give way. Let each 'band' be independent of the other."

W. Z. Hutchinson remarks thus: "If pieces of combs must be fastened into frames, wires are as good and cheap as any fastening, and it is advisable that they be removed."

Dr. G. L. Tinker answers thus: "The best way is not, perhaps, the cheapest, since to get the combs in the frames nice and straight, there is no better way, I think, than to use thin, narrow strips of wood a little longer than the frames are deep on opposite sides of the comb, and fastened at both ends with fine wire. Remove it at the end of two or three days."

The Amalgamation of Bees.

Query, No. 52.—Why was such a thing as bee-diarrhea unknown when we had nothing but the black or German bees? May not amalgamation have more to do with it than cold, pollen, or the so-called honey-dew? Our winters were as cold then as now, and the bees had all the pollen they wanted.—Gorsuch, Pa.

G. M. Doolittle replies as follows: "Bee-diarrhea was known with the German bee, as Quinby told us of it in his book, before the Italian and other races came to this country."

Dadant & Son remark: "Bee-diarrhea was *not unknown;* but the very men who introduced improvements and foreign bees, discovered the disease and the remedies, or rather the preventives."

Prof. A. J. Cook answers thus: "Diarrhea *was* known. The winters were *not* as cold. Pure black bees die as badly as Italians or hybrids."

W. Z. Hutchinson says: "This is a false assumption. Black or German bees having no traces of any other blood, *have* suffered from the diarrhea."

Dr. G. L. Tinker replies as follows: "Bee-diarrhea is not a modern affection with bees by any means; but in this country the clearing up of so much of the timber (which has been the natural wind-break) has resulted in the climate being relatively colder now than 50 years since. When bee-keepers shall recognize the fact that cold is the prime cause of our winter losses, we shall get down to successful wintering, and not before."

G. W. Demaree remarks thus: "The trouble known as diarrhea in bees is caused by confinement beyond the endurance of the bees. The trouble is wholly incident to long cold weather, and is more mechanical than diseasedness. Of course, many things may conspire to shorten or lengthen the struggle for existence. Bad food, damp, unwholesome quarters, weak constitution, etc., may make the struggle short, and the reverse of these may make the hanging on to life long and tedious. But the end will come if there is no return of the sunshine—no 'flash' of the 'wing' in the balmy air. All these detriments to bee-life have existed for ages, and bees had diarrhea years ago, just as they have it now; but less was said about it then, because less was known about bees."

James Heddon replies as follows: "The querist is in error in his proposition. Bee-diarrhea is as old as bees existing in northern latitudes. I have known pure German colonies in locations where no others had ever been known, in old-fashioned box hives, to be nearly all swept away with the disease. New countries do not afford nearly as much autumn-pollen as old ones."

H. R. Boardman remarks thus: "The question is not founded on fact. Such a thing as bee-diarrhea was known before the introduction of the Italians, or 'improved bee-keeping,' and bees were affected by it the same as now."

Fall and Spring Weight.

Query, No. 53.—The liquid portion of the stores consumed by bees in winter, is very satisfactorily accounted for in the replies to Query No. 20; but it is shown, on pages 55 and 56, by evidence which cannot be impeached, that bees often consume very large quantities of pollen while in confinement, and yet remain perfectly healthy. It is hard to believe that the indigestible portions of all this pollen, together with the waste tissue caused by extensive breeding, can be retained for months in the intestines. What becomes of it?—A Subscriber.

Prof. A. J. Cook says: "Those who have bees that breed extensively, in winter, in the cellar, where the bees cannot fly, are respectfully urged to send me some of the bees for examination. Do bees rear much brood? Is it not possible that in preparing food for larvæ they extrude from the mouth some of the matter? The little pellets in the hives are from the mouth, as I have shown. Can it be they spit out the *debris?*"

W. Z. Hutchinson remarks thus: "I fail to see with Subscriber, that there is positive evidence on pages 55 and 56, that bees often consume very large quantities of pollen when in confinement, and yet remain perfectly healthy. When the pollen and waste tissue accumulates to a sufficient degree, diarrhea is the result."

Dr. G. L. Tinker says: "This has been one of the disputed questions having a practical bearing upon the wintering problem. We are now able to answer it (thanks to the careful researches of Mr. S. Corneil) intelligently. Bees in winter confinement under favorable conditions void their feces in the hive! The indigestible portions of the pollen consumed, and the tissue waste, are regularly evacuated from them as so much excrement. The very interesting experiments of Prof. Cook, leading him to hold opposite views, are inconclusive. I wish here to score another fact that pollen is a perfectly healthy winter diet for bees. When in the near future it shall appear that good, sound pollen is essential to the best results in wintering, as there is now every reason to believe, we shall get out of an egregious error that has in its short day, caused more care and done more mischief than any we are likely to come in contact with hereafter."

G. M. Doolittle remarks thus: "I do not allow that it is proven on pages 55 and 56 that bees without brood eat pollen, but on the other hand, the proof is positive that many colonies starved to death with plenty of pollen in the hive. The pollen found in the intestines remained there from the fall previous, as Prof. Cook has lately found plenty of pollen in the intestines of bees wintered wholly on sugar syrup, without pollen. Where no diarrhea or brood is present, all the pollen in the intestines is easily carried from one flight to another, hence it has no direct effect regarding the difference between fall and spring weight."

James Heddon says: "My reply to the same question (Query No. 20), is according to the best light I have. I deny that it is shown on pages 55 and 56, that bees consume large quantities of pollen in confinement, and yet remain perfectly healthy. I believe that bees can breed in confinement and remain healthy, as that is proven on pages 55 and 56; but the pollen is not consumed by the workers; it is handled by them and consumed by the brood. There is something here that none of us clearly understands, I think."

☞ The Texas State Bee-keepers' Association will be held on Thursday and Friday, May 7 and 8, 1885, at the apiary of Judge W. H. Andrews, at McKinney, Tex. All interested in the advancement of apiculture, are earnestly requested to be present and make this a memorable meeting of the Association.

W. R. Howard, Sec.

CORRESPONDENCE.

Explanatory.—The figures BEFORE the names indicate the number of years that the person has kept bees. Those AFTER, show the number of colonies the writer had in the previous spring and fall, or fall and spring, as the time of the year may require.

This mark ⊙ indicates that the apiarist is located near the centre of the State named: ♁ north of the centre; ♀ south; ⊸ east; ⟜ west; and this ♂ northeast; ⚲ northwest; ⊸ southeast; and ♀ southwest of the centre of the State mentioned.

For the American Bee Journal.

Methods of Curing Foul Brood.

16—G. M. DOOLITTLE, (40—80).

I have been waiting for some time, and anxiously watching the columns of the BEE JOURNAL, hoping that some of the bee-keepers who had more scientific knowledge than myself, would have something to say regarding what we find in the articles on pages 644 and 740 of the BEE JOURNAL for 1884, relative to foul brood, or what Mr. Cheshire terms "*Bacillus Alvei.*" While waiting, I have also been wondering if Mr. C. has not in some way made a mistake, or if they did not have a disease of bees in England, known as foul brood, different from our American foul brood. These words of Mr. Cheshire, found on page 646, "the popular idea that honey is the means by which it is carried from hive to hive, and that mainly through robbing, is as far in error that only occasionally and casually can honey convey it from colony to colony," are so directly opposed to our much honored Quinby's words, "I drew all of the bees from such diseased colonies, strained the honey, and fed it to several young healthy swarms soon after being hived. When examined a few weeks after, *every one, without exception, had caught the contagion,*" that it is not strange that I began to wonder if there was not a mistake somewhere. Again, Mr. D. A. Jones says: "A single drop of honey taken from a diseased colony, if fed to the larvæ of a healthy colony, is sufficient to start the work, which, if unarrested, is inevitable destruction."

While I always prize scientific research highly, yet to be valuable to me, such research must not run squarely against facts known to exist from practical experience. As hundreds of the practical apiarists of the United States *do know* that the foul brood of this country is spreading, and is contagious mainly through the honey, the words of Mr. C. sound very strangely to me, when applying them to what I know of foul brood.

My first experience with this disease was in 1872-73. Being short of combs, and the bees not building them (by my method of securing a large yield of comb honey) as fast as I desired, I procured more comb containing a little honey, of a man several miles distant during the winter of 1871, and fitted it into frames. These frames were given to a late swarm the following summer, to enable it to be in condition for winter. In the fall I noticed a few cells of unhatched brood, but I thought nothing of it as I had at this time but little experience in bee-keeping. During the next spring, combs from this hive were exchanged with other hives, and before I could hardly realize the situation, I found that this hive was almost rotten with foul brood, and 11 others thoroughly inoculated with the disease, caused by the exchange of combs; first from the colony above-named, and subsequently from those hives into which the first combs were inserted. Becoming alarmed, I rashly resolved that I would never under any circumstances, again exchange combs, nor ever take another comb from another apiary, not even as a gift—the folly of which resolve I saw the very next spring, when some of my colonies were starving while others had plenty of honey to spare.

As the 11 diseased colonies constituted one-third of my apiary at that time, I began to look about to see what could be done to save them. I turned to Quinby's Bee-Keeping, and there found that if the disease had not advanced too far, the colonies would swarm, and if such swarms were hived in empty hives, no disease would follow them, as the honey taken with the bees would all be used up in comb-building before any larvæ were hatched in the new combs. Accordingly, I hived all the new swarms from these colonies, in empty hives, and 21 days later drove out all the bees from the old hive and hived them the same as were the swarms. The honey was strained and boiled, the combs rendered into wax, and the hives burned. The colony which took the disease from the old comb that I bought, was driven out as they were too weak to swarm. In this way all of the eleven were cured, but in the fall I found two more, that investigation showed that they had had a frame of brood given them from one of the eleven hives, that at first gave no signs of the disease. These two were allowed to go over until 1873, when they were treated as were the others and effectually cured, since which time I have had no foul brood in my apiary.

If I were the only one who had cured foul brood by the above plan, there might be a chance for a mistake on my part, but when hundreds in the United States and Canada have done the same thing, it seems impossible that they should not know whereof they affirm. Therefore, what am I to think when Mr. Cheshire says, on page 741, "There is not one single old idea about this disease which is not incorrect, except that it is contagious. Time, I am convinced, will fully prove that the old bees almost invariably are the channels of infection?" If this were so, certainly the above-described process of cure, used with success by so many of our best apiarists during the past 20 years, would not have proved effectual in their hands. That it has been effectual but proves that Mr. Cheshire's scientific research is faulty, or else that he is dealing with something else besides American foul brood.

Again, he tells us that the eggs of the queen contain *bacilli*, he having counted "no less than nine" in one egg. Does not Mr. C. readily see that if this is so, that foul brood must go wherever this queen goes while she lives, and that his phenol cure must be administered every few weeks so long as such queen lives? If our American foul brood could be carried in the ovaries of the queen, it would place an effectual barrier against our queen-traffic which is assuming great proportions in the United States and Canada; yea, and which is soon destined to extend throughout the whole civilized world. Shall we stop all of this for fear that foul brood will come to us with the queens which we buy? No; let us rather hold to the fact expressed by Mr. Quinby when he said 20 years ago in his "Bee-Keeping Explained:" "I have never known such a result in a single instance." If it were possible for a queen to carry foul brood, then the plan which I used in my apiary, would not have cured the disease as effectually as it did, and from my experience I am positive that foul brood cannot be developed from any queen or drone in any way, shape or manner.

While on the subject of foul brood, I wish to notice one point in the method of cure as practiced by Mr. D. A. Jones. He tells us that after causing the bees to fill themselves with honey, he shakes them into a wire-cloth box where they should be left from 3 to 6 days to so nearly starve that some begin to fall to the bottom of the box, when they are to be hived on foundation or empty combs. Now, from my experience I can see no need of this starving process, for, if swarms from a foul-broody colony placed in an empty hive, do not have any of the disease, driven colonies will not. To some of the latest drummed colonies spoken of in the above, I wished to give combs and brood so as to get them in good condition for winter, so I simply left them in the empty hives until larvæ began to hatch, when combs and frames of brood were given, and no signs of the disease appeared afterward. By this plan I secured a half-dozen frames partly filled with nice worker-comb, which were afterward completed by nuclei, which I would have lost had I used the plan as Mr. Jones uses it. If these combs are not wanted for use in the way I utilized them, they would never come amiss for starters for sections, or even for filling the sections full of such combs. In this way those six days of fasting are made to be of value to the unlucky apiarist.

Borodino,⊙ N. Y.

☞ The Progressive Bee-Keepers' Association of Western Illinois will meet in Bushnell, Ill., on Thursday, May 7, 1885. Let every bee-keeper who can, be present and enjoy the meeting. J. G. NORTON, Sec.

For the American Bee Journal.

Clipping the Queen's Wing, etc.

DR. C. C. MILLER, (200—293).

Bee-keepers differ as to the advisability of clipping queens' wings. Those who advise against it have conveniences for hiving swarms, and some one on hand constantly to hive them. If my queens' wings were unclipped, I should make it my study to have the best arrangements possible for hiving swarms without any climbing or sawing off limbs of trees. Taking all things into consideration, I much prefer to have my queens' wings clipped, and give herewith my plan of proceeding with reference to swarms:

A colony whose queen has a clipped wing will make preparations and swarm just as if the queen's wings were whole. Of course the queen cannot go with them, and sometimes the swarm will circle around in the air for a few minutes, and return to the hive; at other times they will cluster on a tree or other object and remain from a few minutes to half an hour before returning. As a general rule the swarm goes back to its own hive, but occasionally the whole or part of the swarm goes to some other hive. I do not know that I have ever lost anything from this cause, as the same bees will store just as much honey in another hive as if they had remained in their own.

Some one must be on hand to watch for swarms. A bright and faithful boy or girl will do very well if the owner is occupied. I have on hand a number of queen-cages of the cheapest kind. When a swarm issues the watcher looks for the queen. She may be seen on the alighting-board, but I have been more successful in watching for her on the ground in front of the alighting-board, and I generally find her not many inches distant; sometimes, however, she may crawl off several feet. Generally the queen is seen and caught while the swarm is issuing. She may be among the first that come out, but oftener she is among the last. If not found before the bees of the swarm have all returned to the hive, it is hardly worth while to look longer for her, although I have sometimes found the queen an hour or more later, some distance (once more than a rod) from the hive, with a small cluster of attendant bees. If the queen has not been found, the probability is that she has gone back into the hive to come out again a day or more later.

After the queen is caught and caged, different plans may be adopted. One way is to remove the hive to a new location, and put an empty hive in its place, for the returning swarm to enter. Give them a frame of brood and their queen, and the work is done. The old colony is so reduced by removal that there is little danger of a second swarm issuing. If any fears of this should be entertained, a part of the bees may be shaken from the combs in front of the new hive (taking care not to shake the comb on which may be the best queen-cell), or all the queen-cells but one may be destroyed.

Another plan is to shake most of the bees from the combs, leaving only enough to care for the brood, and put these combs with the few bees, into a new hive; give them the queen, put in or leave in the old hive two or three combs on which are no queen-cells (I prefer those which have only sealed brood and eggs—no unsealed larvæ), replace the supers, and put the hive which now contains the queen on top of the supers. These bees with the queen will promptly destroy all queen-cells, and in about ten days this hive may be put down where the colony was originally, and the hive with two or three frames may be removed and used as a nucleus hive, enough bees remaining with it wherever it is put, to form a good nucleus and rear a fine queen, providing the eggs that were given it be of good stock.

Marengo, ♂ Ills.

For the American Bee Journal.

What Causes Bee-Diarrhea?

W. Z. HUTCHINSON, (68—94).

Bee-diarrhea is the result of an overloaded condition of the intestines. I think that few, if any, will dispute this. We may have different theories in regard to the causes which bring about this overloaded condition, but can we not all meet upon the common ground covered by my first sentence?

Analysis and microscopical examinations have both shown that the excreta of bees is mostly undigested particles of pollen, and the logical conclusion is that, if the bees ate no pollen their intestines would not become overloaded. The correctness of this conclusion has been proved time and again. Diarrhea has been produced by giving the bees pollen, and prevented by with-holding it, when all other conditions were alike. The first colony with no pollen in its stores has yet to perish from diarrhea.

The stupidity exhibited by some in asserting that the pollen theory is a chimera, because bees in warm climates never suffer from diarrhea, is truly amazing. Bees in warm climates are free from diarrhea simply because they can enjoy frequent flights.

Because it is only in the higher latitudes that diarrhea makes such sad havoc among the bees, it has been asserted that it is caused by cold. Very well, we will put the bees in a warm cellar, are they now free from diarrhea? Unfortunately, they are not, and thus perishes the "cold theory."

Now another class steps forward, and, with confident air, they all exclaim in chorus: "Now, we have found it, its confinement!" Not too fast. Some of the colonies in a cellar are dead from diarrhea; others not yet dead will dwindle in the spring and die; others have only a "touch" of diarrhea, and will probably "pull through;" while still others are entirely free from diarrhea. Where is the confinement theory now, as all were confined alike?

Please do not understand me as intimating that cold and confinement have no bearing upon the subject. The effect of cold is to induce greater consumption of food, consequently the sooner do the intestines become overloaded. Confinement simply prevents the bees from discharging the contents of their intestines in the open air. Cold is not necessary to the production of bee-diarrhea, while confinement is; but it should not be forgotten that while there cannot be diarrhea without confinement, there can be confinement without diarrhea.

Then there are the questions of ventilation and humidity; but as bees have both lived and died during the same winter in well ventilated cellars and hives, and buried in the earth, and in a dry atmosphere as well as a wet one, I can but look upon these as having but little bearing upon the subject.

Will those who continue to use the expression "dry feces," and those who believe that bees ever discharged their feces in a dry state, please turn to page 626 of the BEE JOURNAL for 1882, and read the account of Prof. Cook's experiments upon this subject?

The latest theory is "hibernation." In the first place, Mr. Clarke started out with a false assumption. Bees in forest homes of their own choosing, are no more free from diarrhea than are bees in the modern chaff-hive, or in the cellar. Were bees living in hollow trees, comparatively free from diarrhea, the forests would long ere this have fairly teemed with bees. Mr. Clarke should, however, have the credit of having started a new line of reasoning; and, although it may lead to nothing, it certainly ought not to be cast aside with ridicule. Bees winter well when they hibernate; and, although they sometimes winter well when they do not hibernate, I think that all will agree that the chances are much more in their favor when they do, so much so that it is safe to say, when bees hibernate they winter well.

Why do bees hibernate? As the temperature falls, they cluster closely and more closely to retain the animal heat. Now, in some instances, why do they remain thus quietly and closely clustered for weeks and weeks with no indications of diarrhea, and in others the cluster sooner or later breaks up with diarrhea? In other words, having commenced to hibernate, why do some colonies continue to hibernate and others do not? I suppose the readers are expecting me to give as a reason the consumption of pollen. Well, in the light of all that is now known upon the subject, is there a more reasonable reason that can be given? When bees continue to hibernate for a long time, it appears to me that one of two things must be true, either they hibernate because they consume no pollen, or else they consume no pollen because they hibernate. Let either hypothesis prove true, and it will be seen that there can be no diarrhea if there is no pollen. Let some one produce a case of bee-diarrhea without the use of pollen.

Some have argued that, as bees follow their instinct in storing pollen, no deleterious effects can follow its consumption. Nature, they say, makes no mistakes. It is evident that there is a mistake somewhere. Perhaps it is in attempting to keep bees out of their native clime, without recognizing and complying with the changed conditions.

Rogersville, ♂ Mich.

For the American Bee Journal.

Odors and Sweets.

C. H. COGSWELL.

Mr. Kemp, on page 138, in referring to my article on page 567 of the BEE JOURNAL for 1884, seems to confound odors and sweets, and hardly does justice to what I said. He says: "Did Mr. C. ever visit a sugar-camp where the sap of the sugar-tree was being boiled, and not smell it? Did he never smell the aroma from the coffee-pot on the stove, or the cabbage in the dinner-pot? Did he never inhale the fragrance of a full-blown rose? . . . That flowers and evaporating sweets do emit an odor, everybody knows."

Correct. We agree on that; but I suggest as a fact that these "odors" and fragrant smells have nothing to do with the presence of grape-sugar in honey, or cane-sugar in the "sap of the sugar-tree." The only point that I called in question in my first article, was the vaporization or evaporation of these sugars, and their return in the form of so-called honey-dew. The exhalation of "odors"—from the sickening horror of the "Jimson," *Datura Stramonium*, to the fragrance of the tube-rose and *Lilium Candidum*, have been noted by my "olfactories."

The odors of flowers seem to depend on the presence of volatile oils, and may exist and be exhaled with or without the presence of nectar or grape-sugar. For this I refer to Johnston's Chemistry of Common Life, Vol. II, page 180.

Volatile oils and resins are readily and rapidly exhaled, having, in the words of the Dictionary, "power to pass off by spontaneous evaporation, or of easily assuming the æriform state." The question is, "Does sugar thus evaporate and assume the 'æriform state.'" Upon proof of this proposition depends Mr. K's theory of honey-dew. The Dictionary defines sugar as "a sweet substance obtained from many vegetable juices, by evaporating the water they contain."

The chemistry above quoted, Vol. I, page 200, says: "The solid sugar of honey is identical with the sugar of the grape. The liquid sugar differs from the solid chiefly in refusing to crystallize, and in containing an admixture of coloring and odoriferous substances produced by the flowers. To these foreign substances honey owes the varied colors, flavors and fragrances, for which it is often highly prized." I urge then that it is these "foreign substances," these volatile odors and fragrances that are "emitted" from many flowers, and not the honey. It is these odorous substances which pass off from the boiling sap with the surplus water in the form of steam, which "evaporate," leaving the sugar as a residuum in the kettle. I should be glad to accept Mr. Kemp's theory of honey-dew in place of the "louse" theory, if it seemed as true.

Mr. K. says that there are but three sources from which saccharine juices can be obtained; viz: "earth, air and water." He then adds that "not a particle" can be digested or analyzed from garden soil or rain-water, and perforce, if his conclusions are true, all these tons of honey must pass from air to flowers, and back from flowers to air. I wish to ask if it has been shown that sugar or nectar can be "digested or analyzed" from atmospheric air more readily than from earth or water.

Virden,⊙ Ills.

For the American Bee Journal.

Rights and Patents.

JAMES HEDDON.

As I have been over the same grounds traversed by Mr. Beckwith, in the last number of *Gleanings*, I wish to give what I have discovered that he seems to have overlooked. He speaks about the fact that an inventor starts where some one leaves off; and that inventions are merely mental evolutionary growths. I grant it. The patent laws will grant to each inventor just that part of that growth which belongs to him—and no more. Suppose Mr. B. discovers a principle, but cannot discover enough of it to get from it any practical value; Mr. A. does likewise. C. looks at both, and discovers a third, which makes the first two of value to humanity. He gets the right. He is the real benefactor of mankind.

Mr. Beckwith says that "a large part of the patent claims are, when thoroughly sifted, only what some one else used long ago, but never thought of getting patented." Good! When every one is anxious to break down and invalidate a patent, it is because the use of the principles are considered valuable, and the self-interest of the public desires to avoid the royalty. Now, if it is so valuable, why is it so "old" and dead? Why did not the "old" original inventor get a patent? At least why did not the new light even radiate from its original point, out over humanity? But, perhaps, this may be answered by saying, "the discovery is of no value." That is about the only reasonable answer. Well, then, what care we how many patents A, B or C may claim and hold on something which we do not want? Time and truth will invalidate it, putting it in the old grave where thousands of its predecessors have gone.

Certainly, "demand stimulates to invention," and our brightest inventors cannot help wearing out their lives with an automatic action that brings on all sorts of nervous diseases. Because this over-stimulated, self-operating, destructive labor is of such a nature that it would work without pay, should we take advantage of that? *Never.*

I once heard a man say, "I am opposed to pensioning soldiers; most of them went to war, not as patriots, but as adventurers, little dreaming of the hardship they were to meet, or they never would have gone." I replied: "No matter, these men did bear the hardships of war, that I (then a boy) could in manhood enjoy the benefits of their hardships and labor. Never mind the intent; the pain, suffering and death was borne, and I owe a debt, not only of gratitude, that can never be paid, but of dollars and cents which shall be liberally paid so far as my influence goes."

Again, Mr. B. says, that if Mr. A. did not discover and monopolize the discovery, it would be left in the great secret vault of Nature, where it would soon be discovered by another. I grant that. I used to think that this was one valid argument against the patent system (not patentees); but let us look at it further: The objection raised is, that when Father Langstroth took from this great "vault" his movable frame, he robbed it of one great truth, and thus left *us* one less chance to discover; and had he not done so, we would, ere this, have found it. I grant and believe the last part of that sentence, but not the first. Scientific facts are infinite. No matter what A, B or C takes from the vault, there is an infinity left, and I found that a thought of this depletion arose from a stronger desire to take what some one else had groped about after in the darkness, and finally laid outside the vault door, than to go in likewise and meritoriously bring something else to light. When Father L. held his patent ("monopoly"), there was kicking and screaming. One hive vender, who was infringing his patent, after doing so with a set determination, going into lawsuits with him, trying to prove priority with this same old story, "used by Mr. M. years ago," and failing, proposed a relief fund, which he headed with $100. Father L. rose in his dignity and genius, and said: "Sir, I will not accept one cent from you. I only ask what *belongs* to me." When I read this reply, I felt an electric shock pass over my whole being.

All this is about the patent system, and not patentees. An unanswerable reason why Brown now has a moral as well as legal right to patent his inventions is, because living under the patent system, he always has paid, and no doubt always will be forced to pay tribute to other inventors.

My main objections to the patent system has been the money thrown away by would-be inventors, and the robbery by selling worthless patents. I have been considerably connected with patents and patent lawyers, and I have found to my satisfaction, that the greater part of this priority reversion to old discoveries of the same thing, for the purpose of breaking down valid patents, is pure and simple perjury. I have known this perjury to exist outside of and unknown to the defendant, caused by the vanity of the witness; not usually made of whole cloth, but out of what would make no case, in the mouth of a less vain and honest witness. However, I never knew it to win. Have none of the readers ever discovered that much of the opposition to patents is the product of pure and unadulterated selfishness? Few patents "monopolize." I do not now think of a single one in our line that does. A patent may make the patentee rich by the monopoly of the manufacture of all the articles of the kind, and which also enables him to make them at much less cost.

Dowagiac, ♀ Mich.

For the American Bee Journal.

Old and Young Bees, etc.

L. L. TRIEM.

On page 184, Mr. C. W. Dayton says: "But how old bees may be distinguished from young ones when in winter quarters, is not as apparent." It would, indeed, be very difficult to distinguish old from young bees in case the bees were wintering well—in that perfectly quiet state as Mr. Heddon and many others have described. But in this case it is different; as soon as the burlap cover is removed from the frames, bees rush up in countless numbers, and surely we cannot be mistaken. I always distinguish old bees from young ones by their light color and downy or fuzzy appearance.

Both of those colonies referred to in my article on page 123, were Italians. I knew that they were breeding even before I removed them or uncovered them, by the many young, imperfect bees at the entrance of each hive; however, I saved both of the queens, and one of the colonies is now in average condition.

Feeding bees is a subject of much importance at this season. I have tried out-door feeding, and I cannot succeed nearly so well with that as feeding inside of the hive. For two years I have fed inside of the hive, both early in the spring for stores, and later for the purpose of stimulating the bees. My feeders are simple. I use the standard Langstroth frame and two strips of wood, like wooden separators, are nailed to both sides of the top of a frame ⅜ of an inch lower than the bottom of the top-bar. A bottom-bar is inserted, all is nailed with ¾-inch wire-nails, and a little hot wax is run around the joints. Bore a ⅜-inch hole in the top-bar for a funnel to pour in the feed. The space below the feed-tank will be used for brood-rearing, and only the 3 or 4 inch space is lost.

I use enameled cloth or burlap covers under a tight honey-board, and cut a slit in the cover, slip the honey-board forward, insert the funnel, and no bars can bother. In this way I am now feeding 25 colonies which were light in stores, and I shall commence about May 1 to feed all my bees to stimulate brood-rearing. The advantages of this feeder are numerous. There is only one other better way of feeding, of which I know, and that is as Mr. G. M. Doolittle, Mr. O. O. Poppleton and others feed bees, viz: By using combs of honey or syrup; and with this I am not altogether satisfied.

La Porte City⊙, Iowa.

For the American Bee Journal.

Increasing the Number of Colonies.

JNO. A. BUCHANAN.

As I have had some experience in increasing the number of colonies, and have accomplished just what some others may desire to do, I wish to state the course pursued to accomplish the desired end. During the fall of 1880, the bees in this section were short of stores, and some of the wiseacres at that time were advocating the use of a food safe for winter stores, composed of equal parts of granulated-sugar syrup and grape-sugar syrup. This was a cheap, innocent looking food for bees, but before I got rid of it, I was thoroughly disgusted with it.

The winter following the feeding of this "pizen," was hard enough on bees having the most wholesome food obtainable, but this above-mentioned food, with such a winter, was too much for the bees, and by the following April, out of 80 choice colonies, I had just 15 that were only strong enough to cover from 1 to 4 Langstroth frames. These weak colonies were placed on the south side of a high, tight board-fence, and were protected, stimulated, and cared for in the most approved manner. As soon as brood began to hatch rapidly, all were equalized. When the brood department became crowded, and the weather became warm, an upper story containing 10 more Langstroth frames was given each colony, which was at once used for the extension of the brood. Soon these combs were filled with brood, and both stories packed with bees. One colony was confined to a single story, and induced to prepare for swarming by daily feeding, and was permitted to cast a swarm. When the young bees were within two days of maturing, a strong nucleus was formed for each queen-cell that I found in the hive, which numbered 26, and just about the time these queens were ready to emerge from the cells, each nucleus was supplied with a queen-cell. In ten days 25 of these young queens were laying, one having been lost on her mating flight.

I now took frame after frame of brood from the upper stories of the old colonies, thus building the nuclei into full colonies as rapidly as possible, and at the same time giving the old colonies empty combs to fill with brood for future draughts in forming other nuclei, which were in turn built into full colonies as their young queens began to lay. In this way those 15 weak colonies were increased to 70 strong ones, besides producing several hundred pounds of surplus honey.

One must so manage all through as to have young queens ready to hatch within a day or two of the formation of the nuclei. In my case I had plenty of combs, but comb foundation might be used instead; for without either, with but an average locality and season, I think it questionable if such increase can be made. If one's time is very profitably employed for the most part, it may pay to buy queens; otherwise not. Unless the bee-keeper has combs which he wishes to save by getting bees on them, it will not pay to more than double the number of colonies each year until the area of his apicultural field is fully stocked.

Holiday's Cove, ♁ W. Va.

For the American Bee Journal.

Honey-Dew—Wintering Bees.

E. B. SOUTHWICK, M. D.

Much has been written in the last volume of the BEE JOURNAL about honey-dew, but as none, I believe, have expressed my ideas of the matter, I will now give them.

Dew is moisture condensed from the atmosphere by cold; honey-dew is moisture and honey condensed by cold. There are insects that excrete a substance that bees will eat, and there are some leaves that when wounded or cracked, a substance will exude from them that bees will eat; but neither of these can be dew, for they are not condensed from moisture in the atmosphere. That there is an article that will fully "fill the bill," I have no doubt; but where does it come from? is the question. We notice in large fields of flowers, when there are bees in the vicinity, that the bees are busy until noon, and sometimes later, but we seldom see them there in the after-part of the day. Why? Have they gathered all there is, and do flowers secrete honey only in the night? I think that no one will claim that such is the case. Then, what has become of it? The moisture on the leaves has evaporated, and is it not safe to believe that the honey has done the same? If so, what becomes of it?

The old pagans claimed that their god lived on honey, but I do not believe that our honey goes that way; we must look for it in some other way; and as the moisture that is evaporated at the same time, is returned to us at night in the form of dew, is it unreasonable to think that the evaporated honey in the cool of the night, does condense and return to us in the form of real honey-dew? I think not. This honey is as good as the best, but the exudation of bugs, the sap of trees or leaves, the juice of rotten fruit, and the like, is better out of the hives than in them, and is entirely unworthy of the name of honey-dew.

In reading Mr. Pringle's article on page 73, I was not a little pleased to find that his experience was so nearly like mine during the first three years. I commenced on the improved plan, took a bee-paper, and read many books on the subject, but my bees for three years were dead in the spring. During the last of the three winters, when I thought of my bees, it was with satisfaction that I contemplated their comfortable situation for I had packed them according to the most approved plan; but, lo! when spring came they were all dead except one colony, and that was worthless. To say I was disgusted, would not begin to express my feelings. I then went to work with a perfect contempt for everybody's methods, and made hives such as I thought the bees needed, and I can say that I have not lost a good colony in them, that I was not satisfied had starved.

Sherman, Mich.

* * *

For the American Bee Journal.

The Pollen Theory.

16—DR. A. B. MASON.

I would like to add my "say" to that of Mr. Corneil's, on page 55, that "The pollen theory must go," but my "must go" is a little different from his. I say that I believe it "must go" into more general use if the heavy losses from which bee-keepers are now suffering in wintering bees, are to be avoided. There are but few who practice wintering bees without pollen, that say anything about it in writing for the bee-periodicals.

This makes the sixth winter that I have wintered my bees on this plan, and with uninterrupted success. So far as I know, I was the first to try this plan, but I claim no honor for it, as it was not original with me. In the BEE JOURNAL for June, 1879 (page 277), I saw what seemed so reasonable a statement of the case, by that thoroughly scientific man, Mr. Frank R. Cheshire, that I had read but a few lines of the article referred to, before I saw the "pollen theory;" not "in all its glory," but the statement in the first 13 lines were just what I had learned 25 years before, in regard to nitrogenous or tissue-forming, and non-nitrogenous or heat-producing foods. I had heard these terms often repeated during the winter of 1857-58 by the the professors in the Medical Department of the University of Michigan, and Mr. Cheshire's article seemed to tell just how to prepare bees so they could be wintered without loss. I put the theory (shall I call it "theory?") in practice with part of my colonies during the next winter, and it was a perfect success, and it has been during every winter since. Each winter I try some colonies with pollen so placed that they are very sure to eat at least some of it, and sometimes they have the diarrhea, and sometimes they do not. Some of my colonies that had pollen during the past winter, showed signs of diarrhea, but those without pollen are in splendid condition. On Feb. 14, I cleaned the dead bees from all the hives and swept up all from the floor (I always winter them in the cellar), and they would not measure to exceed ten quarts to 100 colonies. On March 9, I examined them again, and there was a still smaller proportion of dead bees.

If Mr. Heddon and Prof. Cook (and where can we find better authority on this subject?) do say "that bees can winter well with plenty of pollen in the hive, if all other conditions are right," it does not follow "that we have a direct admission from the author of the pollen theory that it is not correct." The assertion by Mr. Pond, that "this, of course, ends the controversy, and bids farewell to the subject," does not end it by any means; and it wont "rest" even if Mr. Heddon does say, "let it rest with future experiments."

"Our wintering troubles" are the great "drawbacks" to bee-keeping, and feeling very much interested in the matter, I read with great interest all I see on the subject in the bee-papers, and when reading some of the articles, I have repeated the old saying, "none so blind as those that won't see." All kinds of causes are given as the cause of loss, such as cold, confinement, cold and confinement, moisture, too much ventilation, not enough ventilation, brood-rearing, not hibernating, bad honey, starvation, etc., but the most that perish have the "diarrhea."

For several days I have been spending a good share of the time in looking over the back volumes of the BEE JOURNAL to see when and by whom the pollen theory was first advanced, and who have given in "their testimony" on its side, and I am surprised at the amount of such testimony. Should all such as are practicing the theory, and those who believe in it, give in their "vote," I am not sure but Mr. Pond, and in fact all of those who are for no pollen in winter, would be completely surprised at the throng of intelligent bee-keepers who have accepted the pollen theory as the preventive of such heavy losses in winter as are now so prevalent.

It seems to me that the opponents of the "theory" do not understand it. Nearly, if not quite all the evidence which they bring forward, is simply to prove that colonies do winter well with plenty of pollen in the hive, having but little or even no diarrhea. Why, we all know that! But are they sure that when colonies are put away for winter with a good supply of it, that they will come out all right in the spring? "Aye! there's the rub!"

I wintered bees in Iowa during several severely cold winters, without loss, and I suppose that they had a supply of pollen, but I never looked to see. I have wondered how many "pollen men" know the amount and location of pollen in their hives, or whether there is any at all. I had several colonies last fall that had but a few cells of pollen, so few that I did not take the trouble to remove them in preparing them for winter, and some colonies were loaded down with it. Mr. Corneil brings forward the kind of evidence we can all give, that bees do frequently winter well without any pollen having been removed from the hives; but who can tell how much pollen was there, or how much was consumed by the bees? Bring forward the evidence that the "theory" does not hold good in practice, by proving that bees become decimated when they have no pollen—nothing but pure honey or sugar syrup. Let us have the evidence from such as have honestly, with a desire to get at the truth, tried to winter bees with good honey or sugar syrup and no pollen, and have failed; and if they have failed let them give all the minutia of preparation, where wintered, and the temperature and condition of the repository, etc.; and then let us hear from those who have tried and succeeded. It does not seem possible that so much has been said by such practical bee-keepers as Prof. Cook, Mr. Heddon and others, on this subject, without many trying the plan.

"A short discussion ensued on the 'pollen theory,' which received no endorsement; the speakers being Rev. L. Johnson, Dr. Jesse Oren, C. P. Dadant, C. F. Muth and others," is the report in the BEE JOURNAL of what was said of the "theory" at the late International Congress at New Orleans. Is that any evidence that the "theory" is not correct? Are not such men as the Rev. L. L. Langstroth, Prof. A. J. Cook, and Messrs. Frank R. Cheshire, James Heddon, G. M. Doolittle and R. L. Taylor theoretically and practically the peers of any in our specialty? and they are on the side of the pollen theory; and I might name others equally well known.

We know that bees must have nitrogenous food in order to rear brood, and that strong colonies do sometimes rear a large amount of it in winter without having the diarrhea; but is not that easily accounted for? and is it not additional evidence, and that of the strongest kind, too, that the theory is correct? Is it not pretty universally admitted that bees use pollen or its equivalent, honey or its equivalent, and water, with which to make the chyme on which the larvæ are fed? Mr. G. M. Doolittle says about four parts pollen, two parts honey, and one part water. So we see that the bees digest most of the pollen that they use in rearing brood, and it does not go to overload them with diarrhetic material.

Since writing the above, I have received the BEE JOURNAL for March 4, and on page 134, I find the best of testimony on this subject—in fact the best I ever saw. In the article by Mr. Doolittle, near the centre of that page, I find the following: "That the larval bee subsists wholly on this creamy food or chyme, I think no one will deny, and if from my observations I am correct, the largest element in this food is pollen. As the larva absorbs this food, the grosser part of the pollen forms itself into the yellow streak seen in all larvæ when taken out of the comb, but most plainly in the drone-larvæ, which streak is finally enclosed by the intestines of the newly hatched bee, and evacuated on its first flight." Here is evidence from one of our best experimenters, and it shows just where the undigested pollen goes to.

Again, on page 5, is another article by the same painstaking experimenter; and in the first column he says: "The intestines of the newly hatched bee are filled with pollen when it emerges from the cell; in fact, this pollen is easily seen with the naked eye, in the larvæ, before it is sealed over in the cell, and the first thing that the young bee desires to do on the first flight (which occurs, where all is favorable, when the young bee is about six days old), is to relieve the abdomen of this pollen mass, which accumulated when the bee was consuming food in the larval state." Here we again see what becomes of the pollen which the old bees use. Farther on in the same article we find what becomes of the young bees that were supplied with the undigested pollen fed in the larval state. If they had no opportunity for discharging it within a few days, the result was—diarrhea and death.

But here another thing comes in: Mr. Doolittle's breeding or old bees and those that were reared died. Now, do we not all know that bees often breed in winter, and have no chance for a cleansing flight, and come out in the spring clean, bright and strong, and in the very best condition? What makes the difference? I wish that we had a small army of such experimenters as Messrs. Doolittle, Heddon, and Prof. Cook. I like to see them cross swords and then finally find out that they are fighting on the same side.

I do not call to mind a single case that has been brought forward to confute the pollen theory, but that can be accounted for on that theory. In Prof. Hasbrouck's essay, read at the International Congress, and found on page 155, he says: "Whenever anything new and useful is discovered, there are always those who, without any consideration, are ready with an 'I don't believe it.' Sometimes they attempt to verify conclusions, or to follow processes, with a disposition to be a little better pleased to fail than to succeed, so that they can demonstrate their foresight, and have the satisfaction of saying, 'I told you so,' 'all a fraud,' 'another humbug!'"

Why not change the programme for awhile and not tell of so many instances where bees winter well with pollen in the hive, but let us have the cases where they do not winter well with no pollen and with plenty of good honey or sugar syrup? If any one is anxious to prove that the "theory" is not true, give us the evidence of those that have tried it and failed. When a writer says he does not believe in the theory, let him add that it is not scientific, and so attempt, and if possible overthrow the statements of such scientists as Mr. Cheshire and Prof. Cook, and that he has thoroughly and honestly tried it and failed.

Wagon Works, Ohio.

For the American Bee Journal.

Hive Door-Yards—Sections.

B. F. LITTLE, (80—125).

Mr. J. A. Pearce, on page 169, requests an expression as to hive dooryards. I began by using sawdust and chips; I also tried sand, but I do not like either. My yard now is run strictly on the lawn plan, with which I am delighted. No doubt the question will be asked, "How can a lawn mower be run so as to mow close to and under the hives? I use a hive with a tight bottom, and resting on legs about 2 inches long, and the hives stand in rows. In the summer season I mow the yard about three times in two weeks. I have from ¼ to ⅜ of an acre which I mow by beginning on one side of the yard, mow up to the row of hives, front or rear, as the case may be; stretch a line, and have a two-wheeled truck, similar to a depot or mill truck, with two iron arms run out in front, and so arranged as to slip under the rear of the hives, and move it backward or forward, as the case may be, to the line.

If the grass shows signs of dying where the hives have been standing, move them to one side a little also. By moving the whole row, the bees are not inconvenienced in the least. Keep the yard mowed so close that in swarming time a queen can be seen anywhere. No bugs, toads or vermin will find a place in which to hide. I can mow my yard and move 100 colonies in 3 hours.

I would like to ask Dr. C. C. Miller, in reference to his essay, read at the International Congress, about experiments in different widths of sections. He says: "Scant 2 inches in width, used with separators, averaged," etc. He used four other different widths without separators with different results. The Doctor did not say whether he used a Heddon case or wide frames. The point I wish to know is, will the narrow sections in wide frames, say 2 inches, produce the effect which he spoke of, or will the frames have to be narrow in proportion to the sections?

Some of the leading apiarists recommend the "tiering-up" plan for extracted honey for quality, etc., taking off the honey at the end of the season. Do they not experience difficulty with robber bees, when they do take off the honey?

I wintered my bees in a cellar. The winter was terribly cold, and consequently some frost got in around the cellar wall. The lowest that I saw the mercury in the middle of the cellar, was 32° above zero; it is not higher now than 39°. My bees have been in the cellar for 4 months to-day (April 1), and I will not be likely to get them out for a week or ten days yet. They seem to be in fair condition.

Brush Creek, ♂ Iowa.

For the American Bee Journal.

Shipping-Cases, Fronting Hives, etc.

DR. W. G. PHELPS.

The length of my previous article on page 119, precluded the possibility of elaborating the plan proposed (if it needed such) of utilizing the surplus receptacle as a shipping-case. It may seem to some that in shipping honey in such a case they might be parting with a fixture of the apiary. I have experienced no such trouble. With the exception of one case, mine were all returned to me by the firm purchasing my honey, as previously agreed upon. Peradventure, they may be retained, even with our name and address stenciled upon them, what of it? Do they cost any more than the cases generally used to ship comb honey in? Like the berry and peach chest used so much in this fruit-growing country, the larger per cent. will be returned if so stipulated when sales are made.

To secure comb honey with the least possible amount of propolis attached to the sections, I have found a slat surplus-case indispensable in this State; viz: A slat to protect the bottom of the sections. In using a section 1½ inches wide, I use a slat of the same width let in at the bottom of the case. Some bee-keepers may differ from me, but "as for me and my house," I must say that we do not enjoy scraping propolis from the edges of the sections at the risk of breaking the delicate combs. I prefer to let my commission man, or the retailer do that, and I believe that at the present price of comb honey, they can afford to do it better than I; hence my idea in shipping it pretty much as our tiny employes put it up.

I want to inquire why the broad staple used in construction of barbed wire-fence, or one similar in shape, cannot be utilized to make our brood-frames reversible? By simply boring two holes in the ends of the top and bottom bars, for the insertion of the same, and lightly tapping the staple to its place, what better support do we need? When reversing, place the two staples in what was previously the bottom-bar. Instead of entrance-blocks to regulate the admission to the hive (and also ofttimes to be getting misplaced), I find strips of folded tin passing behind narrow retainers of the same metal properly tacked to the hive, the best possible entrance regulators.

Permit me to close this article by recording a hearty endorsement of Rev. M. Mahin's remarks on page 26. I have been just perverse enough to place the entrance of each hive due north for the last three years, and I highly recommend the plan for both summer and winter—in the summer for just the reason which Dr. Mahin gives; in the winter, for the most excellent reason that the bees are not tempted abroad by every strong ray of sunshine, and thus often to perish in vain attempts to regain the hive. With the proper tilt forward that every hive should have in winter, I never realize the slightest trouble with ice forming at the entrance.

Galena, ♂ Md.

For the American Bee Journal.

The Reversible Frame.

HOWARD U. ACKERMAN.

That the reversible frame is an improvement upon the old style of hanging or Langstroth frame, there can no longer be a shadow of doubt. That it has come to stay, is, I think, an accomplished fact. As to which style is the best, each bee-keeper will, as in all other cases of hives, smokers, extractors, and other apiarian fixtures, decide for himself. For myself I must say that I am better pleased with the frame described by Mr. Heddon, on page 8, than with any others yet brought to my notice. It seems to be simplicity itself, and, taken altogether, it is a very valuable arrangement.

It has been suggested that a standing frame is the simplest plan for reversible frames, but somehow I could never look upon it as such. It seems too much like retrogression. This may only be a prejudice upon my part, however, for I understand that several of our most prominent bee-keepers are very successful with a standing frame. Perhaps the reversing facilities afforded by the standing frame are the mitigating circumstances connected with its use. If this is the case, how much more valuable should the reversible hanging frame prove to the average bee-keeper. A whole season or two might pass by and the bee-keeper never need to reverse his frames, and, indeed, at certain times it might be a detriment to his colonies and his honey crop to do so; in such a case, or such a season, he must exercise his judgment as he does in all other things. The simplest fact that the frames *can* be reversed need not necessarily prove they *must* be reversed; and because the bee-keeper goes to a little extra expense to place reversible frames in all his hives, and finds at the end of the season that they have not been of any particular advantage to him for that season, he need not bemoan his stupidity; for, like the person who visited a mining camp upon the frontier and asked a characteristic individual of the locality, "if there really was any necessity of a man making a walking arsenal of himself in that camp," the reply was, "Stranger, you might go about these diggings for a year and never see the need of a shooting-iron, but, stranger, if you ever did need one, you would need it awful bad." The same is true of reversible frames; you may not need them for a whole season, but when you do need them they are very convenient.

North Manchester, ♂ Ind.

For the American Bee Journal.

Apiculture as a Business, etc.

E. J. SMITH.

I do not agree with those who advise making bee-keeping a specialty. If a specialist bee-keeper allows his bees to swarm, he will soon have a large number of colonies which he must locate in different parts of the country, and in doing so he must crowd out any with a few colonies; so there is no use for those with no experience, such as farmers, etc., to try to make a little money out of bees to help them along. Out of 25 bee-keepers here who keep 10 or more colonies, only 4 make it a specialty. Bee-keeping has been a great help to farmers. One who rented a farm for $200 a year, was able to pay the rent from the receipts of his apiary, and thus was able to save something each year with but little extra help. I have but 65 acres of cleared land, and I could save but little in good seasons, but now I hire a man to do the work on the farm, and I attend to the bees, and by so doing I have made a success of it.

We must endeavor to produce our honey at the lowest possible cost, so as to compete with the California honey which overstocked our best markets in the East last year; or we will have to sell our honey so low that it will not pay the cost of production.

I would say to any who are just starting in the business, or who intend to do so, if you have patience, pluck and perseverance, and like the business better than any other; if you like to work hard both early and late; and if you have a good locality, you will succeed. All the talk about bee-keeping being such an easy business for sick folks and women, is all wrong, and is liable to mislead many.

Although reversible frames may prove a success for some sections of the West, I do not believe that they will ever be of practical use in the East, for the following reasons:

1. As we have no fall crop of honey here, except in a very few localities, we should have to feed to bees all their winter stores, were we to get all the frames so full of brood that the bees would be compelled to put all their best honey in the sections; and were we to have a drouth at the close of basswood bloom, as we had the past season, we should have to feed them in August when it is so hot that the bees will rob if they have the least chance to do so.

2. In looking for queens, and in other manipulations necessary for the handling of all the frames, there would be great danger of killing the queen and a large number of workers, by cutting them in two when reversing the frames. It would be far better to have queens prolific enough to keep the frames full of brood and not have to be to the trouble of reversing them, for I do not believe that pollen is the only cause of bee-diarrhea, as there was a lot of it in nearly all my hives during the past winter, and I am not nearly so much afraid of loss in the winter as in the spring. It would be no advantage to me to have the combs fastened at the bottom, except in extracting, and then I think that it would be a disadvantage to the bees.

Addison, +○ Vt.

SELECTIONS FROM
OUR LETTER BOX

Report, from W. D. Markham, Hart, +○ Mich., on April 13, 1885:

My 80 colonies of bees have been in the cellar 5 months to-day, and they appear to be in as good condition as when I put them there. There are no signs of diarrhea among them.

No Loss in Wintering.—D. F. Park, Athens, ♂ Pa., on April 10, 1885, writes:

About April 1 we had a warm day which brought the bees out finely. I find that my apiary of 60 colonies is all right, but they are very late in starting brood-rearing. I have made many inquiries of bee-keepers here, and I find the losses very small. Two of my neighbors, with 60 colonies each, report a loss of but one in both apiaries. All have been wintered on summer stands, and a part of them with only outside packing, natural stores, and plenty of pollen. I think that this location is very favorable, as it is on a narrow strip of land between two rivers, which flow in parallel lines about 50 rods apart, while a mountain shuts off the west wind, so that it rarely gets 14° below zero. We find the rivers a great detriment in summer, as great numbers of bees fall into the water when coming home laden, especially at nightfall, when a chill seems to arise from the water, which affects them when flying low.

Transferring Bees, etc.—Chas. Harrold, Hamburg, ♀ Iowa, on April 6, 1885, says:

I have been transferring bees the past winter and this spring, and experimenting some in that line. I have now found a plan that just suits me. I have transferred bees by placing a new hive beneath the box-hive during a honey-flow, and also by removing the top from the box-hive, and placing two top-stories over the part remaining, one story filled with frames of honey, and the other with thin quilt and chaff packing. I put them into the cellar, and I found the bees up to the quilt about the middle of the winter; I removed the frames, bees and brood to the lower story on Feb. 1, but I did not like this plan, on account of the troublesome way of packing for winter; so, by experimenting with resin and beeswax, I found that I could make a preparation by using resin and beeswax, half and half, that was just the thing I wanted. I now remove the box-hive to a warm and well-prepared room—place the empty hive and frames on the old stand, and being prepared with the necessary tools for tearing the box-hive to pieces, and a table or bench, and a long and flaring pan with the preparation, and knives for cutting the combs, I am ready for operation. I cut the combs out, immerse their edges, which I wish to stick to the frames, in the preparation, and lay the frames on the table, press the combs up against the top-bars, let them lay in this position till they become cool, and then hang them in the empty hive. The hive that is placed on the stand catches the bees that take wing. Shake the remaining ones into the hive that contains the brood, and place them on the old stand. This gives me the best results of anything that I have ever tried. I no longer dread the job of transferring bees. My bees are doing well now. They are hard at work on the maple and elm, bringing in pollen and honey. About 75 per cent. of all the bees in this section perished during the past severe winter. I have lost several queens this spring, but I do not know the cause. I found them dead in front of a neighboring hive.

Wintering Bees.—A. L. Edwards, (110—110), Skaneateles, ⊙ N. Y., on April 9, 1885, writes as follows:

I have just read the letter of Rev. J. Kearns, detailing the success in wintering bees, and I think that he has found the right way. I have wintered my bees in the same manner for 6 years, and I have not lost one colony in my double-walled chaff-hives on the summer stands, save from the loss of queens remaining undiscovered too long, thereby having to double up the queenless colonies with others. So far, this season, I have not lost a colony from any cause whatever; and I believe if bee-keepers would adopt the large chaff-hives made to contain 2 colonies, with 5 or 6 inches of dry sawdust packing around them, and then see that all other known conditions are complied with, such as good stores, good queens, plenty of bees, and ventilation over the packing, there would be fewer reports of such wholesale slaughter of the bees in wintering. From my experience, I think that it is usually the bee-keeper's own fault if the bees perish in winter.

Good Success for a Boy.—Bertie W. Peck, Richmond Centre, ♂ Ohio, on April 8, 1885, writes as follows:

I began the season of 1884 with 14 colonies, increased them to 24, and obtained 1,000 pounds of honey, mostly extracted. The past winter has been the worst one on bees that I have ever experienced, the loss of bees being greater than during the winter of 1880-81. I now have 15 colonies left, and the most of them are in good condition. I began keeping bees when I was 16 years old (I am now 21), and I think that I have had good success for a boy; of course the BEE JOURNAL has been a great help to me.

Still Cold.—G. M. Doolittle, Borodino, ⊙ N. Y., on April 15, 1885, writes thus concerning the present unfavorable weather:

So far this year my bees have not had a flight, on account of the still continued cold weather. This is the latest that I have ever known bees on the summer stands to be kept without a flight. Those whose bees have had several flights, must see that bees in this locality have something to contend with besides pollen. I have lost 7 colonies out of 40, on summer stands, and must lose more if it does not warm up soon.

Bees have Wintered Well.—C. C. Gentry, Miami,⊙ Mo., on April 10, 1885, writes thus:

I have been fairly successful with my bees during the past year. On Nov. 12, 1884, I put 63 colonies into a cellar which was dug in a sand-bank. They had plenty of honey and pollen for winter stores. I left them in the cellar for 135 days, and then put them out, when they had a good flight, and seemed to be in splendid condition. I saw no signs of diarrhea, and I do not think that they had hibernated. I am satisfied with cellar wintering. The hives should be put 20 inches from the cellar bottom. The temperature in the cellar ranged from 35° to 40° above zero. I have Albinos, Italians and blacks, but the Albinos are ahead this spring. Last season I worked 45 colonies for extracted honey, and I obtained 3,000 pounds. Some of my neighbors made failures. I have moved my bees from Carroll county to Saline county. Extracted white clover honey sells for 8 1-3 cents per pound here; comb honey, 12½ cents.

Report, from B. D. Scott, Ovid Centre,⊙ N. Y., on April 9, 1885:

My bees have wintered well, and are in good condition. I lost but 5 colonies, 3 by disease, and 2 by starvation. They were confined for 140 days in the cellar. I put in 43 colonies last fall. The weather is very cold now, ice having formed 1½ inches thick, last night. The bee-keepers who wintered their bees on the summer stands have lost most of their colonies, and some have lost all.

Bee-Diarrhea.—13—Wm. Robson, (24—20), Rolla,⊙ Mo., on April 9, 1885, writes:

The worst form of diarrhea presented itself among my bees during a flight about Feb. 26. There were 14 colonies in single-walled hives. I was much alarmed about it, as they crawled out on the outside of the hives and spotted them badly, and the snow for 100 feet around the hives was covered with the excrement. This was not the case with those bees which were wintered in double-walled hives; their appearance was lively and dry, and at this time, as they come flying home laden with pollen, it is easy to discern the strongest colonies. They were all wintered on the summer stands. On account of a snow-storm which continued for 3 hours to-day, the bees did not work outside.

Scarcely any Loss.—Fayette Lee, Cokato,⊙ Minn,, on April 2, 1885, writes thus:

My bees have been in the cellar for 5 months, and out of 80 colonies only 2 are dead. Some colonies had brood in three combs, and some are so strong that they fill every space between the combs. They have consumed scarcely any honey. I have rented 33 colonies, so I now have 111 in all. I prefer the Syrians.

Wintering Bees in a Damp Cellar.—W. M. Chapel, Kingston,⊙ Wis., on April 2, 1885, writes:

Last fall I obtained 13 colonies of black bees, and on Nov. 5 and 22 I put them into the following described bee-cellar: It is 14 feet long, 6 wide, and 4 high—2 feet below the ground and 2 above. The soil is a red clay on low ground. The walls were clay below the ground, and loose boards above, banked up on the outside with earth. It contained no floor. It was covered first with a layer of marsh hay, then that with earth, and then the whole was covered with corn-stalks. The roof was boarded before any material was put on. The ground was very damp all winter, and all the colonies were more or less moldy. About midwinter I lost one colony by starvation, the dead bees of which I threw on the cellar bottom. In March another colony succumbed to the same cause, and the dead bees of this one were partly thrown on the floor, where they all molded. To my knowledge the mercury was never up to 40°. It ranged from 22° to 38° above zero, but it was most of the time at 30° to 34°. During one cold spell last January the mercury dropped from 32° to 22° within three hours. One chimney made of fence boards arose about 18 inches above the cellar top, is all the ventilation that was employed. I took my bees out of this musty place on April 1, before sunrise, with the mercury at 29°, outside. I placed them upon dry ground in the sun, with a strong east wind blowing, and after a four hours' flight, I had 11 strong colonies which are now cleaned up and in good condition. My bees were in box-hives.

Reports on Ventilation.—James Heddon, Dowagiac,♀ Mich., writes thus:

I would like to have all bee-keepers to give a report of the healthful wintering of bees, with the least ventilation. If all who have known bees to successfully pass the period of confinement without any change of air, or with almost none, will give me, by private correspondence, a detailed account of the conditions, etc., I will from it formulate an article on "ventilation," giving each reporter credit, and thus get at this important problem. Mr. Shirley says that his neighbor who tried to smother his bees (as referred to in my last article), kept the hives sealed for 48 hours.

Nearly all Dead.—W. S. Bair, Rollersville,♂ Ohio, on April 6, 1885, reports as follows:

The past winter has been a terrible one on bees in this part of Ohio. About 97 per cent. of all the bees are dead, and the few that are left are weak and diseased. I have made quite extensive inquiries of the bee-men, and receive the same answer from all—"dead! dead!" We had in this county (Sandusky) about 1,000 colonies, and some of our largest apiaries are extinct. Extreme cold and honey-dew did the mischief alike to all, no matter whether they were in cellars, on the summer stands, packed or unpacked. I had 28 colonies, and to-day I have 8 good ones, and 2 very weak ones. I had mine packed in buckwheat chaff.

Bees Under an Ice-House.—Philip Week, East Camp,⊸ N. Y., on April 10, 1885, writes:

Ventilators in bee-repositories are a damage, as they cause too many changes in the temperature. I built an ice-house holding 50 tons of ice, on a side-hill, and under the ice I built a room 12 feet square and 7 feet high, for storing fruit; the side-walls and floor are cemented, and on the entrance in front I filled out with sawdust, and also a double door. In this room under the ice I put 7 colonies in November, 1883, and in the spring I found 3 of them dead, being after-swarms, and too weak to winter; 4 were alive. The temperature was 34° above zero. Last November I put 12 colonies into the room, with no ice in the ice-house, the floor being calked and air-tight overhead. Upon examining them in December, I found bees lying behind the hives cut through the middle, and I suspected mice. So I set a trap and caught three. They must have gotten into the hives before I took the bees in, as there was no possibility of them getting in through the cemented room. The weather being too cold to give them a flight, I examined all the hives to find the mice, and at the same time I cleaned all the bottom-boards which made them uneasy all winter. I have carried them all out, and they are doing well, even a colony in an observatory hive is doing well, and I feel perfectly satisfied to winter my bees hereafter in the same air-tight place without ventilation. The temperature was 32° above zero during the past winter. I also had 6 colonies outside on my bee-scale, one of which was dead, and both these and those under the ice-house had the diarrhea. I imagine that buckwheat honey caused it, as it was dark in color like the feces.

Reversible Frames.—Albert Neuman, Rolla,⊙ Mo., describes his reversible frame as follows:

The inside measure of my hive is ¾ of an inch more than the outside measure of the frames. The rabbets of the hive I make of pieces of lath ¼ of an inch thick, and 1½ inches wide, by cutting notches on one side 1½ inch from centre to centre, running to a point ½ of an inch from the edge. Two of these I then nail to the bottom of the inside (front and back) of the hive, and one at the front 11 inches above the lower one (my frames are 12x12 inches), and into this last one I cut a ⅛-inch saw-kerf, ¼ of an inch deep in each notch, for receiving a piece of wire which is fastened one inch from each corner of the frame. I then slip the frames into the notches, which is easily done on account of the slopes of the notches, and the upper front wire slips into the saw-kerfs, which makes the frames perfectly steady. There is no trouble to handle the frames, as they are ¼ of an inch shorter than the inside of the hive, and the only place where they come in contact with the hive is at the two wires at the bottom and one on top. To reverse them, all one has to do is to take them out and put them back upside down.

Report, from A. M. Gander, (36—33), Adrian,♀ Mich., on April 13, 1885:

The weather is still cool, and the spring is backward. I notice by my note-book, in which I note the weather and condition of bees, etc., that the first pollen was brought in last spring, on April 2, and in 1882, pollen was first brought in on March 1. There is great complaint of "spring dwindling" throughout this section, caused, as most practical bee-keepers know, by bad wintering. The past severe winter with poor stores (which consisted largely of honey dew), was too much for the bees, and a great many died with the diarrhea. Fully two-thirds, and probably three-fourths, should the cold weather continue a spell longer, of the bees throughout this part of the country, will be dead; some bee-keepers have lost about all they had, while a few saved nearly all of their bees. Of my own, I have 33 left out of 36 colonies prepared last fall for winter. All of the 36 were alive on April 1, but 3 of them were so weakened by diarrhea, that they have since died, and I may lose 2 or 3 more yet, unless the weather soon changes for the better. My bees were packed on the summer stands with sawdust underneath, at the sides, and at the ends up 5 inches above the brood-chamber. I put sifted wheat-chaff on top of the frames to absorb the moisture. A space on top of the frames was left for the bees to pass from one frame to another. Their stores were mostly honey, gathered after the honey-dew was over with in this section, and sugar syrup fed in the fall to those that were light in stores.

Local Convention Directory.

1885. *Time and place of Meeting.*

Apr. 23, 24.—Western, at Independence, Mo.
C. M. Crandall, Sec., Independence, Mo.

April 24.—Portage County, at Ravenna, O.
L. G. Reed, Sec., Kent, O.

Apr. 25.—Union, at Earlham, Iowa.
M. E. Darby, Sec., Dexter, Iowa.

Apr. 28.—DesMoines County, at Burlington, Iowa.
Jno. Nau, Sec., Middleton, Iowa.

May 1.—Central Iowa, at Winterset, Iowa.
A. J. Adkinson, Sec., Winterset, Iowa.

May 2.—Central Illinois, at Jacksonville, Ill.
Wm. Camm, Sec., Murrayville, Ill.

May 4.—Linwood, Wis., at Rock Elm Centre, Wis.
B. Thomson, Sec., Waverly, Wis.

May 5.—Western Michigan, at Fremont, Mich.
F. S. Covey, Sec., Coopersville, Mich.

May 5.—W. New York and N. Pa., at Cuba, N. Y.
W. A. Shewman, Sec., Randolph, N. Y.

May 7.—Progressive, at Bushnell, Ills.
J. G. Norton, Sec., Macomb, Ills.

May, 7, 8.—Texas State, at McKinney, Tex.
W. R. Howard, Sec., Kingston, Tex.

May 12.—Cortland Union, at Cortland, N. Y.
W. H. Beach Sec., Cortland, N. Y.

May 19.—N. W. Ills., and S. W. Wis., at Davis, Ills.
Jonathan Stewart, Sec., Rock City, Ill.

May 28.—Mahoning Valley, at Newton Falls, O.
E. W. Turner, Sec., Newton Falls, O.

May 28.—N. Mich. Picnic, near McBride, Mich.
F. A. Palmer, Sec., McBride, Mich.

May 29.—Haldimand, Ont., at Nelles' Corners, Ont.
E. C. Campbell, Sec.

June 19.—Willamette Valley, at La Fayette, Oreg.
E. J, Hadley, Sec.

Dec. 8–10.—Michigan State, at Detroit, Mich.
H. D. Cutting, Sec., Clinton, Mich.

☞ In order to have this table complete, Secretaries are requested to forward full particulars of time and place of future meetings.—Ed.

Convention Notices.

☞ The Bee-Keepers of Western Michigan will hold their spring meeting on May 5, 1885, at Fremont, Mich. All are invited to attend. F. S. Covey, Sec.

☞ The second annual meeting of the Des Moines County (Iowa) Bee-Keepers' Association, will be held at the Court House in Burlington, Iowa, on April 28, 1885, at 10 a. m. All interested are cordially invited to attend and make the meeting as profitable as possible. All implements of the apiary sent to the Secretary will be exhibited at the meeting, and will be disposed of or returned, as the owner directs. John Nau, Sec.

☞ The Willamette Valley Bee-Keepers' Association will hold its second meeting at La Fayette, Oregon, on the third Tuesday in June, 1885. All who are interested are invited to attend. E. J. Hadley, Sec.

☞ The Central Illinois Bee-Keepers' Association will meet at Jacksonville, Ill., at 10 a. m., on Saturday, May 2, 1885.
Wm. Camm, Sec.

☞ The spring meeting of the Cortland Union Bee-Keepers' Association will be held in Cortland, N. Y., on May 12, 1885.
W. H. Beach, Sec.

☞ The Mahoning Valley Bee-Keepers' Association, will hold its next meeting at Newton Falls, Ohio, on Thursday, May 28, 1885. E. W. Turner, Sec.

☞ The next meeting of the Union Bee-Keepers' Association of Western Iowa, will be held on April 25, 1885, at Earlham, Iowa.
M. E. Darby, Sec.

☞ The bee-keepers of Portage County and vicinity will meet at Ravenna, Ohio, on April 24, 1885, for permanent orginization. Let every bee-keeper be present.
L. G. Reed, Sec.

☞ The second annual meeting of the Western N. Y. and Northern Pa. Bee-Keepers' Association will be held at Cuba, N. Y., on Tuesday, May 5, 1885.
W. A. Shewman, Sec.

Special Notices.

☞ We want one number each of the Bee Journal of August, 1866—February, 1867. Any one having them to spare will please send a Postal Card. We will pay 50 cents for one copy of each of the two numbers.

◆

☞ The Farmer's Account Book contains 166 pages, printed on writing paper, ruled and bound, and the price is $3.00. We will club it and the Weekly Bee Journal for a year for $4.00. If you have already sent us $2.00 for the Weekly Bee Journal for a year, we will send the Book for another $2,00, making $4.00 in all. If you want it sent by mail, add 20 cents for postage.

◆

☞ We want one number of the Weekly for 1884—May 28. Will any one who does not bind them, write a Postal Card saying what they will take for it? Do not send it until you hear from us, that we are not already supplied.

◆

☞ **Preserve your papers** for reference If you have not got a Binder we will mail you one for 75 cents, or you can have one FREE if you will send us 3 new yearly subscriptions for the Bee Journal.

◆

☞ To create Honey Markets in every village, town and city, wide-awake honey producers should get the Leaflets "Why Eat Honey" (only 50 cents per 100), or else the pamphlets on "Honey as Food and Medicine," and scatter them plentifully, and the result will be a DEMAND for all of their crops at remunerative prices. "Honey as Food and Medicine" are sold at the following prices :

Single copy, **5** cts. ; per doz., **40** cts. ; per hundred, **$2.50.** Five hundred will be sent postpaid for **$10.00;** or **1,000** for **$15,00.** On orders of **100** or more, we will print, if desired, on the cover-page, "Presented by," etc., (giving the name and address of the bee-keeper who scatters them).

To give away a copy of "Honey as Food and Medicine" to every one who buys a package of honey, will sell almost any quantity of it.

Advertisements.

Garwood's Reversible Frame Device

WILL FIT any Frame; is simple and cheap; any one can make it; no nails or screws required to fasten it to the Frame. Send **10** cts. for a Photograph with instructions, or **25** cts. for a model. Friend Root turned this down as "too much machinery, but quite ingenious." You will **smile.**
C. GARWOOD, (Box 858) Baltimore, Md.
16A1t

FOR MOCKING BIRDS, TEXAS RED BIRDS,
Rose-Breast Grosbeaks and German Canaries at reasonable prices, address on postal card,
W. D. BALL, Columbia City, Whitley County, Ind.
16A2t

NEW STEAM HIVE FACTORY!
Simplicity and Langstroth a specialty. Also Sections and general **Apiarian Supplies.** Send for Price-List. HAMBAUGH & STONE, Springs, Ill.
16A2t

"THE **SUCCESS Foundation Fastener** 'takes the cake;' the fastening is a complete job, as I never saw it before."—C. F. Muth, Cincinnati, Ohio. Correspondence with Supply Dealers solicited. Circulars free.
16A1t **GIWITS & SON, West Jersey, Ill.**

READ! READ! READ!

"Friend Alley:—The best strain of bees I have came from your apiary; the queen I bought of you last season. I think **your Drone Trap** a grand thing. Will order more soon."—O. O. Crawford. **Bees and Queens** of the best strains. **Nuclei** and **full colonies.** Circulars free.
16A1t HENRY ALLEY, Wenham, Mass.

DR. FOOTE'S

HAND-BOOK OF HEALTH,

HINTS AND READY RECIPES,

is the title of a very valuable book that gives a great amount of information, of the Utmost Importance to Everybody, concerning their daily habits of Eating, Drinking, Dressing, Sleeping, Bathing, Working, etc.

It Costs only TWENTY-FIVE CENTS, and contains **28** pages, **and is sent by mail, post-paid, on receipt of price.** This is just the Book that every family should have.

IT TELLS ABOUT

What to Eat,
How to Eat it,
Things to Do,
Things to Avoid,
Perils of Summer,
How to Breathe,
Overheating Houses,
Ventilation,
Influence of Plants,
Occupation for Invalids,
Superfluous Hair,
Restoring the Drowned,
Preventing Near-Sightedness,
Parasites of the Skin,
Bathing—Best way,
Lungs & Lung Diseases,
How to Avoid them,
Clothing—what to Wear
How much to Wear,
Contagious Diseases,
How to Avoid them,
Exercise,
Care of Teeth,
After-Dinner Naps,
Headache, cause &
Malarial Affections,
Croup—to Prevent.

IT TELLS HOW TO CURE

Black Eyes, Boils, Burns, Chilblains, Cold Feet, Corns, Coughs, Cholera, Diarrhœa, Diphtheria, Dysentery, Dandruff, Dyspepsia, Ear Ache, Felons Fetid Feet, Freckles, Headache, Hiccough, Hives Hoarseness, Itching, Inflamed Breasts, Ivy Poisoning, Moles, Pimples, Piles, Rheumatism, Ringworm, Snoring, Stammering, Sore Eyes, Sore Mouth, Sore Nipples, Sore Throat, Sun-stroke, Stings and Insect Bites, Sweating Feet, Toothache, Ulcers, Warts, Whooping Cough, Worms in Children.

It will Save Doctor Bills!

Price only **25** Cents. Sent by Mail, post-paid,
THOMAS G. NEWMAN,
925 West Madison Street, - CHICAGO, ILL.

For Sale 1,500 Wired Combs, straight and perfect. Size, $17\frac{5}{8}$x$9\frac{1}{8}$; also 100 to 200 colonies, and a 9-inch Dunham Foundation Machine. **R. HYDE, Alderly, Wis.**
15A2t

No. 1 Comb Foundation

45 cts. per lb. until May 5th. Italian Bees by the lb. Nuclei, full Colonies and Queens. Send for Circular. **W. H. PROCTOR, Fairhaven, Vt.**
16A1t

$5.60 WORTH OF CHOICEST **—NEW—** Flower & Vegetable Seeds for **$1.00**

Also NEW and RARE plants as premiums. Send for our catalogue before ordering your seeds and plants ; it will only cost a postal card, and will astonish you.

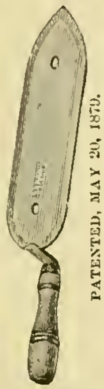
F. E. FASSETT & BRO., FLORISTS, ASHTABULA, OHIO

PURE IMPORTED ITALIAN QUEENS!

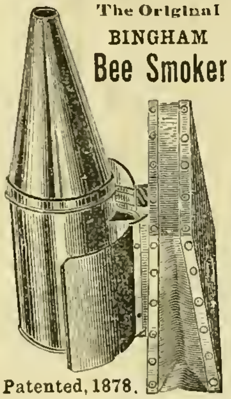
WE shall receive an early shipment from MONTE FIORITO, ITALY. We shall be pleased to book orders for them.
15A2t **MUCCI & BRO, Lexington, Ky.**

W. Z. HUTCHINSON,
Rogersville, Genesee Co., Mich.,
can furnish just as neat, white, smooth and perfect, dovetailed, white poplar sections as there are made. Send for sample and prices. A few full colonies of choice Italians in Heddon hives for sale at $8.00 per colony. Untested Italian Queens (from the South) $1.50 each. Tested Queens reared last year in the home apiary, $3.00 each. Beeswax wanted. Make money orders payable at Flint. 16Atf

VALUABLE ORIGINAL PATENTS.



BINGHAM & HETHERINGTON
UNCAPPING KNIFE.
PATENTED, MAY 20, 1879.



The Original
BINGHAM
Bee Smoker

Patented, 1878.

Prof. Cook, in his valuable Manual of the Apiary, states that "Mr. Bingham was the first to improve the old Quinby smoker by establishing a direct draft." Five years of persistent effort has demonstrated that no one but Bingham has been able to improve a Bingham smoker. Hundreds of Bingham smokers have been in use five years, and are yet in working order. They burn lots of blocks and chips and stuff, and make lots of smoke and comfort, and have no dampers or match-box attachments, as they never go out or fail to blow smoke up or down or sideways, much or little, swift or slow, just as you please, any or all the time; top up or down, they always go!

Bee-keepers will save money and vexation by buying genuine Bingham smokers and Bingham & Hetherington Uncapping-Knives first. We neither make nor handle any other supplies; but of these we are the original inventors, and only legal makers, and have had over 45,000 in use from one to five years, and receiving but one letter of complaint.

With European and American orders already received for over 3,000, there is evidence that 1885 with us is not likely to be an idle one. Also that such goods as we make have met the advanced wants of the most advanced bee-keepers in Europe and America.

Prices, by mail, post-paid.

Doctor smoker (wide shield)	3½	inch	$2 00
Conqueror smoker (wide shield)	3	"	1 75
Large smoker (wide shield)	2½	"	1 50
Extra smoker (wide shield)	2	"	1 25
Plain smoker	2	"	1 00
Little Wonder smoker	1¾	"	65
Bingham & Hetherington Honey Knife,	2	inch	1 15

TO SELL AGAIN, apply for dozen or half-dozen rates. Address,

BINGHAM & HETHERINGTON,
6A2Btf **ABRONIA, MICH.**

PATENT
FOUNDATION
MILLS 6 inch $5.
10 " $15
W. C. PELHAM
MAYSVILLE, KY.

37A1y

Pure Phenol! I can furnish Pure Phenol for the cure of **FOUL BROOD,** as described by Mr. Frank Cheshire, of London, England. As it is a liquid, it can be sent only by express. Price, 25 cents per ounce, delivered at the express office in Chicago.

ALFRED H. NEWMAN,
923 West Madison Street, CHICAGO, ILL.

60 Colonies of BEES
FOR SALE.

For particulars, call upon, or address,
A. L. EDWARDS, SKANEATELES, N. Y.
14A8t 5B1t

Dadant's Foundation Factory, wholesale and retail. See Advertisement in another column.

50 COLONIES
OF BEES FOR SALE!

in Langstroth Hives at $6.00 each, delivered at the Express Office or Railroad Depot. I have been breeding my bees for **honey**, and not for **beauty**; they are mixed more or less with the German brown bees. They have wintered well. Address,

R. R. MURPHY,
Garden Plain, Whiteside Co. Ills.
14A3t

SUMNER & PRIME,
Bristol, Vt.,
BEE-KEEPERS' SUPPLIES.

WE HAVE just completed our Factory, furnished it with the most improved Machinery, and are now prepared to fill all orders for **BEE-FIXTURES** of every description. **WHITE POPLAR SECTIONS** of all sizes a specialty. All orders will receive prompt attention. Send for Catalogue Price-List and samples. 10A12t

THE INVERTIBLE HIVE!

INVERTIBLE FRAMES,
Invertible Surplus Honey Cases,
Entrance Feeders, Top and Bottom Feeders,
Hive-Lifting Device, Honey Extractors,
Wax Extractors, Comb Foundation, etc.

☞ My new Illustrated Catalogue is now ready, and will be mailed to all who may apply for it. Address,

J. M. SHUCK,
DES MOINES, IOWA.
10A1y

A $5.00 BOOK FOR $2.50.

MOORE'S UNIVERSAL ASSISTANT

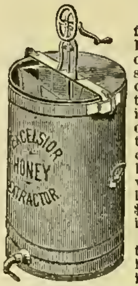
And Complete Mechanic

Enlarged Edition — contains over **1,000,000** Industrial Facts, Calculations, Processes, Trade Secrets, Legal Items, Business Forms, etc., of vast utility to every Mechanic, Farmer and Business Man. The work contains **1,016** pages — is a veritable Treasury of Useful Knowledge, and worth its weight in gold to any Mechanic, Business Man or Farmer. By mail, in fine cloth, $2.50.

Address, **THOS. G. NEWMAN,**
925 West Madison Street, CHICAGO, ILL.

Bees for Sale Full colonies Italians in Simplicity HIVES (L.) frame, to May, $10; June, $9. Hybrids, $1 less. Satisfaction guaranteed. DR. JOHN S. GATES,
14A6t Wilkinsonville, Worcester Co. Mass.

EXCELSIOR HONEY EXTRACTORS



In answer to frequent inquiries for Extractors carrying 3 and 4 Langstroth frames, I have concluded to adopt these two new sizes. The 3 frame basket is in a can of the same size and style as the 2 frame. The 4 frame basket is in the larger can, with the cone or metal standard for the basket to revolve upon, leaving room underneath the basket for 75 or 80 lbs. of honey. It will be complete, with covers, and in every way identical, except in size, with the $16.00 Extractor, 13x20, which is intended for any size of frame.

Excepting with the $8.00 Extractors, all the different styles have strainers over the canal leading to the honey gate, and movable sides in the Comb Baskets. The $8.00 and $10.00 Extractors have no covers.

For 2 American frames,	13x13	inches	$8 00
For 2 Langstroth "	10x18	"	8 00
For 3 " "	10x18	"	10 00
For 4 " "	10x18	"	14 00
For 2 frames of any size,	13x20	"	12 00
For 3 " "	13x20	"	12 00
For 4 " "	13x20	"	16 00

ALFRED H. NEWMAN,
923 West Madison St., CHICAGO, ILL.

100 Colonies of Choice **ITALIAN BEES FOR SALE.** Send for Price-List. Address,
W. J. DAVIS, (Box 91)
14A9t Youngsville, Warren County, Pa.

40 Hidden Name and Embossed **CARDS** and this Perfumed Satchet for 12c. Samples, 4c. CLINTON & CO., North Haven, Conn.
☞ *We have seen cards from many firms, but none as pretty as those from Clinton & Co.*
11A10t

65 Engravings.

THE HORSE,
BY B. J. KENDALL, M. D.

A TREATISE giving an index of diseases, and the symptoms; cause and treatment of each, a table giving all the principal drugs used for the horse, with the ordinary dose, effects and antidote when a poison; a table with an engraving of the horse's teeth at different ages, with rules for telling the age of the horse; a valuable collection of recipes, and much valuable information.

Price 25 cents.—Sent on receipt of price, by

THOMAS G. NEWMAN,
925 West Madison Street, - CHICAGO, ILL.

Sliced Sections!
ONE-PIECE, V-GROOVED.

THEY are *perfect in every respect* Took the first premium at the Michigan State Fair last Sept. Every apiarist who uses them once, wants no others. Will send two samples by mail for 4 cts. postage, or a sample thousand, 4¼x4¼ for **$4.00.** The list price is $4.50 per 1,000—$21.00 per 5,000—$40.00 per 10,000. Send for Circular, etc. Supply dealers will do well to correspond with us.

Address, **BERLIN FRUIT BOX CO.,**
14A3t **Berlin Heights, Ohio.**

Bee-Keepers' Supplies.

We have added to our LARGE FACTORY a SPECIAL DEPARTMENT for the

Manufacturing of Bee-Hives,
AND
White Poplar Dovetailed SECTIONS,
Also, One and Two-piece

☞ All Orders will be filled promptly at the
LOWEST FIGURES,

Send Stamp for Catalogue and Samples.
The H. F. MOELLER M'f'g Co.
1A26t DAVENPORT, IOWA.

WEEKLY EDITION
OF THE
AMERICAN
ESTABLISHED IN 1861
OLDEST BEE PAPER IN AMERICA
BEE JOURNAL
PUBLISHED BY
THOMAS G. NEWMAN,
EDITOR AND PROPRIETOR,
925 WEST MADISON-STREET, CHICAGO, ILL.
Weekly, $2 a year; Monthly, 50 cents.

Vol. XXI. April 29, 1885. No. 17.

☞ We regret to learn that Mr. J. E. Pond, Jr., Foxboro, Mass., is confined to his bed by rheumatism and heart disease. He has been ill for two or three months.

◆

☞ Another new bee-paper comes to our desk; it is called *Tidsskrift for biskjotsel*, and is edited by Mr. Ivar S. Young, and published at Christiana, Norway. We cannot read a word in it, but as Mr. Young has been a subscriber for the AMERICAN BEE JOURNAL for years, we expect it is "up with the times."

◆

☞ We have received a pamphlet of 44 pages from Mr. A. I. Root, entitled "The A B C of Potato Culture; how to grow them in the largest quantity, and of the finest quality, with the least expenditure of time and labor." It is illustrated with 20 engravings, and is nicely printed. Mr. Root is the publisher of it, and says: "It is written by Mr. T. B. Terry, the successful farmer and potato-grower of the State of Ohio. Mr. Terry is employed most of the winters in giving lectures before farmers' institutes, and he is always authority on any thing connected with agriculture. The book is not only a valuable one to potato-growers, but a great part of it applies to the management of almost any crop on the farm, especially to the preparation of the soil, manures, etc." We can furnish it at 40 cents, post-paid.

◆

☞ It is now high time to send orders for everything needed in the apiary for the coming season, so as to have it on the spot and all ready for use when wanted.

Bee-Keeping in Tunis.

Mr. Frank Benton is in Tunis, Africa, and gives the following account of the establishment of a "model apiary" there, and describes it, as well as the bees, as follows:

The movable-comb hives were not all in place, and the colonies in suitable condition to take full advantage of the first yield of honey—that from wild rosemary blossoms—but some surplus has been obtained and many combs have been constructed, so that when the jujube blossoms open, next month, an excellent harvest may be safely counted upon. The rosemary yields wonderfully, and as thousands of acres are covered with its pale, blue blossoms, during January, February and March, it will be a great dependence.

A medium colony transferred on the last day of February, produced over 40 lbs. of extracted honey, besides building out several frames of foundation, in 20 days. The rosemary is the plant from which the famous Narbonne honey of France is gathered, and the Kassartyr honey is most excellent in quality. Some of it is quite transparent, very thick, and possesses a pleasing aromatic taste. Altogether the proprietors of "The Kassartyr Apiary" have every reason to feel encouraged in the work which they have undertaken, and it has already begun to have its influence, as two other apiaries on the same plan are soon to be established in the province, and several enterprising parties are talking of introducing the culture of bees on their estates.

A few words about the bees of Tunis: They are dark—even darker than our common black bees—but, strange to say, they possess nearly the qualities of Syrian bees, and show, except in color, very little resemblance to the black or German bees. Like Cyprians and Syrians, they are somewhat smaller-bodied than are the common bees, and they adhere very well to the combs when handled, but can be shaken off readily. They are also active and energetic workers; but, unlike the Cyprians and Syrians, they are liable at times to fly at one and sting him when he approaches the apiary. They bear smoke rather better than other Oriental races. The queens show a tinge of bronze color and are very prolific. On the whole, Tunisian bees are not to be dispised, even if they are true Africans in color.

I have been wondering how this race of bees got here, and have only been able to offer the following explanation: Early Greek colonists must have brought Hymettus bees with them. History might lead us to this conclusion, and it is indicated by their color, qualities, etc., and particularly their disposition to submit to smoke, as well as by the fact that all other Mediterranean countries from which bees might have been brought here at an early date have, as their general types, yellow races of bees.

Selling Honey.

The following, which we find in the *Stock Breeder*, shows how a demand for honey can be created in any locality by a little exertion. A suspicious customer, at a Bee and Honey Show, introduces the conversation thus, pointing to a nice jar of honey:

"That looks very nice indeed. How did you fix it to make it look so nice?"

"It is not 'fixed' at all, sir, in the sense you mean. Our entire crop of honey is just like this; in fact, this is but a fair sample of extracted honey as produced to-day all over the country; different locality making difference in flavor in some instances, on account of the different kind of flowers on which the bees work. Take a jar along with you."

"No, thanks; I never eat honey; it makes me sick."

"Well, take a couple of these little jars to the children."

Four weeks later.

"Say, have you any more honey like that you gave me at the fair?"

"Yes, sir, plenty of it."

"Bring me down 2 or 3 pounds; the children like it quite well."

Of course we took him the latter amount. Some time later we took him another 3-lb. jar. To-day he writes: "I had thought myself proof against wiles of any bee or any honey man, but I succumb; those little homeopathic jars of honey did the business. The children cry for it, and—well it is not bad to put on warm cakes. Please send me 50 pounds."

◆

☞ A Scotch pamphlet, entitled "An Essay on Bees," by Wm. Thomson, is on our desk. It is published at 80 Gordon St., Glasgow, Scotland, and may be obtained of R. J. Bennett Esq., secretary of the Scotch Apiarian Society. It contains 84 pages and 25 illustrations. The author has for years been known as a prominent writer on apiculture in the British periodicals, his *nom de plume* being "A Lanarkshire Bee-Keeper." It is written in his usual interesting style.

◆

☞ After July 1, 1885, the weight of a letter which can be sent for 2 cents, will be increased from one-half ounce to anything less than one ounce.

◆

☞ Honey to the value of about $27,000 was imported into Great Britain during the month of February, 1885.

◆

Catalogues for 1885.—We have received the following:

Rev. Wm. Ballantine, Sago, O.
G. R. Tyrrell, Laporte, Ind.
J. W. Newlove, Columbus, O.
W. C. R. Kemp, Orleans, Ind.
O. Judd Co.'s Spring Catalogue of publications, 851 Broadway, New York.

QUERIES

WITH

REPLIES by Prominent Apiarists.

Bees Starving in Early Spring.

Query, No. 54.—What is the best way to guard against bees starving before feeding can be done in the spring? I practice laying on the frames cakes of well-kneaded honey and pulverized sugar.—Ontario.

G. M. DOOLITTLE remarks thus: "The plan given is as good as any."

W. Z. HUTCHINSON says: "There is no better way that I know of for guarding against starving bees in the spring, than by laying soft candy over the combs."

PROF. A. J. COOK answers thus: "The best answer is given in the question."

JAMES HEDDON remarks thus: "If the detail of your plan works to suit you, you need no better food. My plan is to know that each colony has enough food until it can fly, and then feed liquid food from the top, if a colony should be short."

DR. C. C. MILLER replies thus: "A section of honey laid on the frames is good; also a frame of sealed honey or a wide frame of sections put next to the cluster."

Bees Affected with Moisture.

Query, No. 55.—Does moisture affect bees filled with sugar syrup in the same manner as those filled with honey? If not, please explain the difference.—W. C. S.

PROF. A. J. COOK answers thus: "I do not think that there is any difference."

G. M. DOOLITTLE remarks: "From the present winter's experience, I think that bees winter best in a cellar having a moist—yes, almost wet—atmosphere. I can see no difference between those having honey or sugar syrup as regards the effect of moisture."

JAMES HEDDON answers as follows: "I have never perceived any difference. Moisture is no part of my fear in the wintering problem. I have colonies now in a new, damp cellar with mold on the combs, honey-boards and alighting-boards, the underside of the cover dripping with water, and water running from the entrances of some of them, and the bees are in perfect health, and their bodies are as slim as in summer. They have nothing but sugar syrup as food."

DR. G. L. TINKER says: "It certainly does. The removal of the thin watery stores from a colony of bees will be considered one of the very essential expedients hereafter in the fall preparation of bees. The injurious effects of cider, for instance, is not due to acids, but to the fact that it is collected so late in the season, and when the temperature is so low that the evaporation of the surplus water is impossible. The conservation of the heat of a colony of bees in winter has more to do with the state of moisture in a hive, and its prevention, than the character of the stores, although thin stores has much to do with it."

Old and New Bee-Hives.

Query, No. 56.—Will bees stand the winter as well and be as healthy in hives which are several years old, as in new hives?—Iowa.

PROF. A. J. COOK says "yes."

W. Z. HUTCHINSON replies thus: "They will."

DADANT & SON answer thus: "Yes, undoubtedly; if the hives are substantial."

DR. C. C. MILLER says "yes."

DR. G. L. TINKER remarks thus: "Old bee-hives, when properly prepared for a colony of bees, are as good as new ones to winter bees in."

G. M. DOOLITTLE answers thus: "I prefer old combs for wintering bees. The hives, whether new or old, make no difference, provided both are equally tight."

JAMES HEDDON answers as follows: "Yes. A hive properly preserved and taken care of, should show no signs of wear or decay after 4 or 5 year's use."

Comb Foundation and Beeswax.

Query, No. 57.—Owing to the increased demand for pure beeswax, and the consequent high price which good, pure comb foundation must command, what price can one afford to pay for the latter rather than do without it for use in both brood-frames and sections?—Franklin Co., Mass.

G. M. DOOLITTLE answers thus: "I do not use it in brood-frames, and would not, except in cases where I wished to prevent drone-comb, so I state no price. For sections, say 50 cts. per lb.

PROF. A. J. COOK says: "As much as we shall have to for years yet."

G. W. DEMAREE replies as follows: "I cannot make a fair profit by paying over 40 cts. per lb. for foundation, except for starters; I can pay $1.00 per lb. for this purpose."

DR. C. C. MILLER replies thus: "It depends upon the price of honey. At present I should hardly want to dispense with it at $1.00 per lb.

JAMES HEDDON answers as follows: "I can afford to pay $2.00 or $3.00 per lb. for thin comb foundation to be used in narrow strips as guides in brood-frames and sections. At the present prices I still practice, and believe it profitable, to use it in full sheets above and below. How much higher price the latter use would warrant, we had better leave to future experiment."

CORRESPONDENCE.

Explanatory.—The figures BEFORE the names indicate the number of years that the person has kept bees. Those AFTER, show the number of colonies the writer had in the previous spring and fall, or fall and spring, as the time of the year may require.

This mark ⊙ indicates that the apiarist is located near the centre of the State named: ♁ north of the centre; ♀ south; ○+ east; +○ west; and this ♂ northeast; ╲○ northwest; ○╲ southeast; and ⚲ southwest of the centre of the State mentioned.

For the American Bee Journal.

Honey Oozing from the Combs.

16—G. M. DOOLITTLE, (40—80).

"Why does honey ooze out of the comb after it is taken from the hive and stored away?" is a question that is often asked, and one which has confronted nearly every comb-honey producer sooner or later. Some seem to suppose that the cause of this state of affairs is that the bees do not thoroughly ripen the honey before capping it. A little thought must show the fallacy of this, for whether ripened or not, the honey can only ooze from the cells after being capped, on account of a larger bulk of liquid being in the cell afterward than there was at the time the bees sealed the cell. This can come only from one source, which is always brought about by either cool, damp weather, or a non-circulation of air, or both. Honey only swells as it becomes damp, and the first that will be seen of that dampness will be in the unsealed cells, where the honey will have become so thin that it will stand out beyond the cells, or, in other words, the cells will be heaping full. If the dampness remains, the sealed honey will soon become transparent, while the honey from the unsealed cells will commence to run out, daubing everything below it, and eventually, if the cause is not removed, the cappings of the cells will burst, and the whole will become a sickening, souring mass.

While in New York City, I once saw several hundred pounds of such stuff which was once as nice comb honey as could be produced, but it had become unsightly and spoiled by being stored in a cool, damp cellar. The cappings to the white combs were ruptured with the honey oozing out of the cells, to such a degree that the cases were all soaked with it, and which, with large puddles on the floor, gave off a sickening smell which, with the unsightly appearance, caused one to think of honey only as something to be loathed. The commission merchant asked me what was the matter with the honey. I told him that the damp, cool cellar was what was the matter, but he would not believe it until I caused him to confess that the honey was all right before it was placed in the cellar 6 or 8 weeks previous.

When I first commenced keeping bees, I stored my honey in a tight room on the north side of the house, where it usually remained from 4 to 6 weeks before crating for market, and some of the first boxes remained much longer than this. In crating this honey, I always found the centre and back side of the pile watery and transparent in appearance. As that which was stored first was always the worst, I thought it must be owing to that being the poorest or least ripened honey, until one year I chanced to place this early honey by itself in a warm, airy room, when, to my surprise, I found upon crating it, that this first honey had kept perfectly, while the later honey stored in the old room was as watery as ever. This gave me the clue to the whole thing, so when I built my shop, I located my honey-room in the southwest corner of the building, and painted the south and west sides a dark color to draw the heat from the midday and afternoon sun. On two sides of this room I fixed a platform one foot from the floor, so arranged that the sections rested on the edges of strips 1½x3 inches, which were long enough to hold 18 sections. The sections were often piled on these strips until they were 12 to 14 high, and 20 wide, making a cube, as it were, containing from 3 to 5 thousand pounds of honey on either side of the room, yet the whole was so piled that the air could circulate between each and every section.

During the afternoons of hot August and September days, the temperature of this room would be raised to 100° and above, which would warm the piles of honey to nearly that degree of heat, and as this large body of honey once heated retained the same for a great length of time, the temperature in this room would be from 85° to 90° at 6 o'clock the next morning, when it was as low as 40° to 60° outside. By this means the honey was being ripened each day, and that in the unsealed cells getting thicker and thicker, when by Sept. 10, or after being in the room from 4 to 6 weeks, the sections could be tipped over, or handled as carelessly as I pleased without any honey running from the few uncapped cells, which the bees often leave around the edges of the boxes. By leaving the door and window open on hot, windy days, so as to cause the air to circulate freely through the pile, I found that it took less time to thoroughly ripen the honey than it did where all was kept closed. In doing this, of course it is necessary to have screens up, so as to keep flies and bees out of the honey-room.

If I wish to keep honey so late in the fall that the rays of the sun fail to keep the room sufficiently hot, or from cool, cloudy weather the temperature of the room falls below 85°, I place an oil-stove in it, and by regulating the flame to suit the circumstances, a temperature of 90° to 95° of heat is always maintained. In this way the honey is in perfect condition when sent to market, in which shape it will stand much abuse before it will begin to ooze from the cells. At the late convention of the Northeastern Bee-Keepers' Association, President L. C. Root said that "what we now wanted to strive for, was not to see how large a quantity of honey we could produce, but to see how good a quality we could get, and look well to the enticing shape in which it was placed upon the market." In this advice I think we have the key-note in regard to establishing a staple market for our production in the future.

Borodino,⊙ N. Y.

For the American Bee Journal.

Those Interesting Experiments.

W. N. HOWARD.

The article by Mr. Doolittle on page 197, will doubtless be hailed by the advocates of the non-pollen theory, with expressions of the greatest enthusiasm; and as Mr. D. is an expert apiarist, a man of keen perception, and generally sound in his reasoning, his conclusions from the result of his experiments there given, will have weight with many, and all will be impressed with the fact, that these experiments were made and given for the purpose of shedding light upon this much-vexed question of wintering bees safely; and they will also serve to show the different conclusions which "many men of many minds" will derive from the same series of facts.

The colony Mr. D. describes was, as he supposed, entirely without pollen, and had not scientific investigation proved it otherwise, he, without doubt, would have staked his reputation as an apiarist, that they were without a particle of pollen, and it clearly shows how easy it is for even the most expert to be mistaken. It is not impossible, not even improbable, that from the time Mr. D. commenced to feed them sugar syrup, that they did not gather pollen, and place it in the combs, and syrup upon it so that it was not visible at the time. Mr. D. looked them over, about Oct. 25, 1884, for he states that other colonies did gather pollen during this period, and why not this?

Mr. Doolittle, Prof. Cook, Mr. A. I. Root, and other eminent authorities, have been positive for years, that brood could only be reared when bees had access to pollen. Mr. D. found young bees and brood in the hive at the time the colony ceased to exist. This fact alone would tend to show that they had pollen; then of the 8 or 10 bees examined first, 2 were found to contain an abundance of pollen. Prof. Cook found pollen in almost every cell of the comb which he examined, and says: "Your bees which are the fullest, or the most turgid—are bloated like—have pollen in almost every case." These are the facts, and what inference shall we draw from them? Mr. Doolittle cannot see wherein the pollen was at fault, simply because the liquid portions of their food was sugar syrup. Reason would point to pollen as the cause of their death, as no bloated bees were found that did not contain pollen. Where all other conditions are such as to be auxiliary to the cause, it may not take any great amount of pollen to produce the effect, as this case shows.

It is, I believe, acknowledged that the excrement in all cases of genuine bee-diarrhea, contains solid particles of brownish-looking matter. Now, when a case like this is developed, and investigation shows no traces of pollen in the intestines of the bees, their excrement, or the combs, then it will be time to assert that pollen is not a cause of bee-diarrhea. Suppose a healthy man be taken suddenly ill and dies; a post-mortem examination reveals the presence of arsenic, and a verdict should be rendered, "came to his death from the influence of arsenic," it would be universally accepted. In this case Mr. D. concludes that although pollen was found in the intestines of the bees and in the combs, it is impossible for pollen to have been the prime cause of their diarrhea, because he felt sure that they had no pollen at the time they were prepared for winter.

How the facts of this case can annihilate the pollen theory, I cannot see, as nothing new is shown except that scientific investigation will reveal the presence of pollen in places where the unaided eye might see none, and that a good cellar is the best and safest place in which to winter bees, as, doubtless, if this colony had been placed in a cellar, it would have wintered in good condition.

Derby,♂ Vt.

For the American Bee Journal.

Over-Production of Honey.

J. E. POND, JR.

Should bee-keeping as an occupation be encouraged or discouraged? What are the facts in regard to the honey-supply to day? Take all the honey that is gathered, whether put upon the market or not, and how much per capita would it give to those who not only would like a supply could they obtain it, but are amply able and willing to pay a fair price for a known pure article? I leave the answer to the readers generally; we all know the quantity would be very small.

Over-production has nothing to do with the matter; were ten times the quantity produced it would be consumed, if the consumer could find it. Right here is the trouble: The large producer floods some city market with his produce; that particular market is over-supplied as a matter of course. In the bee-papers we see reports in regard to honey sales from only 5 or 6 of them. Why is this? Are there no other spots or places in the wide extent of our land where honey can be sold? I do not pretend to know about the South and West, but right here in New England, no honey is being offered for sale, where if the attempt were made, a large trade could be worked up in a short time. Our country towns and smaller cities are wholly unsupplied, and I have no doubt that the South and West is in the same condition.

Producers, instead of finding fault with honorable competition, should exert themselves the more to create a demand. This same old cry has been raised ever since the world began. When the attempt was first made to introduce labor-saving machinery, we all know what a hue and cry was made against it. The same cry was made then as now, "We shall get so large a supply that we can't sell at remunerative prices, and we shall also cut wages down so low that the poor laboring-man will surely starve." What has been the result? We all know well, and no one now wishes to go back to the olden time before the days of mowing machines, reapers, sewing machines, etc. So with the production of honey. Improvements in hives and appliances make honey-gathering an easier matter than formerly, and of course make the cost of production less also. As the country opens up and the population increases, the demand will increase also, and if our producers would only take advantage of their opportunities and branch out a little more—offer their goods where none are now to be found, and do in their business as other business men do in theirs, there would soon arise such a demand that it would take a large increase of production to supply it.

Bee-keepers, as a rule, are poor salesmen. They can produce honey and manage bees successfully, but not having been educated as salesmen, they are obliged to leave the disposing of their products to others. Some of these days they will awake to the fact that they are at the mercy of the middle-men, and then they will organize, and by virtue of such organization, succeed in gaining their rights, and maintaining them also.

Foxboro, Mass.

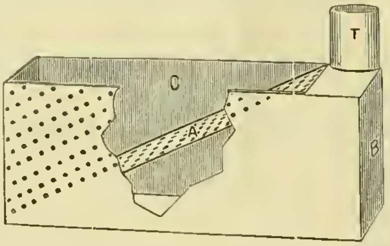
For the American Bee Journal.

Queen-Excluders and Drone-Traps.

JAMES HEDDON.

On page 105 is a clear and logical article on the use of drone-traps, a perusal of which reminded me of something I wish to say. Ever since I first read Mr. Langstroth's work (some 16 years ago), I have had an eye upon any advantages that might be gained by the use of bee-passages, of such size as would in certain desired ways, separate the workers from the larger drones and queens. As stated in my article on page 21 of the BEE JOURNAL for 1884, about 12 years ago I gave the subject a thorough investigation, using mainly the non-swarming attachment here illustrated. The advantages gained by the angling partition **A**, are of very great value, or I made a great mistake in my conclusions, drawn from experiments, and I would to-day use no arrangement not possessing this feature. About the time I was using [illegible]is attachment, the double-wire-cloth-cone fly-trap mania swept over the country. A lady in South Bend, Ind., invented a very good trap, and a non-swarming attachment. Arguments were not sufficient to show the impracticability of both, but time has fully satisfied bee-keepers; both are now among the things of the past, and almost forgotten.

The first attachment I ever made was like that illustrated, except that the holes were a trifle larger than an empty worker required. When I had this in use, and the drones were buzzing in it, as mentioned in my former article, I began to contrive to get the entrance clear of them, and yet not let them go. If the illustration is viewed at the left end, it will be seen that all the upper side of the box that is within the partition **A**, is perforated the same as the partition. Just there I cut a large round hole, and over it I put the two cones of the fly-trap. This took the drones, and would likely have caught the queen also if any swarm had issued while it was on the hive. Notice how nearly this arrangement embraced all (and more) of the principles of Mr. Alley's new trap.



On page 201 (1884), one can see where Mr. Longmate may have borrowed this same combination from Mr. Alley and myself.

During the seasons of 1883 and 1884, I experimented with 10 to 40 queen-excluding honey-boards, and I have so far not satisfied myself that any queen and drone excluding passage-ways are the best practical methods of obtaining the results sought, neither for ridding our apiaries of unwanted drones, for keeping the queen from the surplus receptacles, or for preventing her leading away swarms. I have given the matter much thought and experiment, and yet I am a "doubting Thomas." I think that Father Langstroth and others studied it, and experimented considerably, yet no general use has ever been made of the fact of the difference in the size of our drone, queen and worker bees, except to distinguish them at sight. I do not contend that it cannot be done, but I do contend that the arguments are rather against it now, at least they are to me. If I am wrong, and Mr. Alley is right, the future will so decide it.

The second point which I wish to make is, does my old device invalidate Mr. Alley's claims? I say most emphatically, *no!* If Mr. Alley's trap is useless, the future actions of bee-keepers will invalidate the claim, trap and all. If it is worthless, what do we care further about it? If it is useful, and as necessary as he thinks it is, by what moral or common-sense right do my twelve-year-old failures invalidate his last year's successes? The "monopoly" of granting a patentee the results of his own labor, the exclusive use of what never existed until he made it, is secured to him by the common consent of every civilized nation, in exchange for the good these discoverers do their fellow men, by their inventions. What good did my quiet failures do any one? All honest men are getting tired of hearing the cry, "Oh, I made that years ago," following the heels of every recognized valuable invention. Most of these cries are falsehoods; those that are not, are failures.

I believe that the United States courts, setting upon patent interferences, declare that it is not enough to prove prior invention of any implement, but prior *improvement* must also be discovered. Improvements are not allowed to die, and these facts prevent dragging up dead failures, with which to invalidate living, progressive improvements. Swearing to falsehoods is becoming so common that the above system of evidence has become a necessity. The court now asks these questions: "Mr. B. if you really did invent or discover this principle prior to the date claimed by Mr. A., why did you not use it, and seek to receive remuneration for so great and valuable a discovery? Why did you delay such seeking until Mr. A. had made the principle popular and in demand? The people certainly ought to pay for the benefits they are receiving, to Mr. A., and not to you. Your testimony has the coloring of falsehood. If you ever discovered the implement, you certainly did not discover its worth, or you would have sought its easy security then, rather than its difficult possession now."

Dowagiac, Mich.

Read at the late Bee-Keepers' Congress.

Honey Resources of Napa Co., Calif.

J. D. ENAS.

To give an idea of bee-keeping in this section, would not begin to represent with fairness the interests of bee-keepers throughout the State. Napa county does the best in what is called a "dry season." Water is plentiful at all seasons, and a "wet season" is not favorable for the development of this county, although Napa valley is called "the garden-spot of California." Napa valley has been principally devoted to the raising of grain; of late years, fruit has taken an important part. Vineyards are springing up like magic, and grapes, fruit, and the wine interest will eventually be the principal business in this valley. The climate varies according to locality; frosts affect some parts of the county, while on the other hand, a very short distance away, fruits are hardly known, while the localities are within sight of each other. The foot-hills are, on that account, becoming more sought after. Spots having an elevation of from 700 to 1,000 feet, are often entirely exempt from frost, or at least frosts are of very rare occurrence in such places. While fruits yield largely in the valley, and are of good size, the fruits of the foot-hills have more flavor, and have better keeping-qualities.

There are really no bee-keepers in this county who make a specialty of bee-keeping or honey-producing. There are a very few who keep more than a few colonies for home use. The largest bee-keeper in the valley, last spring, had about 160 colonies. I learned through the papers, that he produced 2 tons of extracted, and half a ton of comb honey. I saw some of his comb honey, but it was not a No. 1 article. It was in rough, split, redwood frames, 6 inches deep, and about 15 inches long, of a dingy color, and would sell nowhere except about home, and very slowly there. He cannot produce a No. 1 article, and so he sells his honey just as soon as it is out of the hive, at any price that he can command. Others have from 10 to 20 colonies in all sorts of hives, kegs and boxes, but seldom get honey enough for home use.

Napa valley in fruit-blossom time, from January, when the almond and peach trees are in bloom, until May or June 1, through blackberry bloom, yields a good quality of honey. A scientific bee-man can, in a good season, produce a fair crop of honey, but it will require skill and everything in good order to secure it. After Jan. 1, the thistle and the tar-weed bloom, and all honey left uncapped in the hive then, will get tainted with a bitter and very disagreeable flavor.

In the foot-hill region there is more or less blue-sage, and the honey is much finer in flavor; in fact, I think we have the finest flavored honey that I have ever tasted in this State. Honey in the northern part of the State has a more decided flavor then that produced in the southern part, while at the extreme south, the honey is more continuous, and of more variety. I do not know of any white-sage that grows in this section, while in some parts of the southern counties, white-sage is their main dependence, and it comes at the time when it is most needed.

I am situated on the foot-hills on the east side of Napa valley, about 5 miles north from Napa city, and 1 mile southeast of the famous Napa Soda Springs. There are thousands of acres of blue-sage growing where nothing else will grow, on a sort of lava formation, apparently on the bare rock in many places. It blooms from January until June, unless checked by frost, or what is as bad here, a north wind which dries up vegetation, and even animal creation. It is deadly in its effects, and everything feels it, as it is blighting in its nature. After the blue-sage comes the yerba santa, or mountain balsam, as it is called, which yields good honey of a very thick body. There is a strong balsam in the yerba santa. Its effects are perceived in the honey, and it has medicinal qualities. This brings the flow to about the middle of June, when we have a drought of honey-flow until corn tassels, about the latter part of July or August; then bees breed some, and sometimes swarm; but they will need all their stores, or if the honey has been extracted close, they will have to be fed, though some bee-keepers prefer to let them take their chances.

I have not mentioned the fruit-bloom which begins in January and lasts until the middle of May; nor the profusion of wild flowers which bloom from the time of the first rain until the "dry season." In September we have goldenrod to begin with, and as the different varieties of grapes ripen, quails, linnets, and yellow-jackets cut the grape-skins, when the bees make a living and store some besides, producing a dark-colored but very palatable quality of honey. The early rains cause many of the compact bunches of grapes to rot, which gives the bees another chance to add to their stores before winter fairly sets in.

Here bees stop breeding in October or November. Generally in November I look through my hives, take what surplus I think the bees can spare, reduce them to about six combs in the centre of the hive, and place division-boards at the outside of the combs. I then put on the cap with 3 or 4 empty grain-sacks on top of the frames tucked in closely, and leave them on the summer stands until January, when I examine them to see if any need stores, when, if they do, I give them some, or replace the wet sacks with dry ones, in case some should get wet. I had to place rocks on all my hive-covers to keep them from being blown away during gales. I generally save enough combs of sealed honey for feeding purposes; otherwise, I use a feeder.

Although some Californian bee-keepers have done very well during the past season, those in all parts of the State did not fare alike. I worked my apiary mostly for rearing queens, but I lost by late, cold, spring rains, over 200 of my earliest queens. The rains were not only cold and late, but long continued, so that it was risky to open the hives. I got no first-class comb honey, and but 2,000 pounds of a good quality of extracted, which I reserved for my home trade. I put it in one and two-pound glass jars, and two, five and ten-pound tin cans, with neat labels on them. I sell all of my honey in Napa City, at from 8 to 12½ cents per pound.

The last three years were very peculiar ones for honey and bees. The season of 1882 was promising. Bees did very well, and honey came in lively until May 13 or 18. About that time Napa county had a cold wave, which killed the bloom throughout nearly the whole county, very few places having escaped. My place had always been considered exempt from frost. I was suckering vines before breakfast, and my hands became numb from cold; after breakfast I resumed my work, and I noticed a few vines black and drooping, and presently a few more. I was surprised at first, but I soon saw, as the sun got higher, more vines drooping. In less time than I could describe it, the whole vineyard was wilted. My hopes sunk low—"killed by frost." I found that it was universal, and so I made the best of it. A little later I found young bees crawling out from the hives, with wings not fully developed. At this time I did not fully understand it, but since, I conceived the idea that as the hives were full of young bees, in all stages, at the time of the freeze, the old bees perished while seeking for supplies, and being cut off suddenly, the young bees were sealed up with a scant supply, and could not develop before hatching; in consequence, the yard was covered with dead bees, and in many hives they became so reduced that only a very few bees were left with the queen on the combs, and occasionally I found the queen alone.

From 60 colonies in the spring, I increased my apiary to 85, reduced them to 24 in the fall, and begun with 20 weak colonies the following spring. In 1883, I bought 15 colonies of blacks, and increased them to 20 strong ones in the spring. I increased my number of colonies to about 95 in June, when a "norther" came and blighted everything. Fruit that looked promising before the "norther" came, lost all of its bloom. Grapes that promised several tons per acre, had less than 1,000 pounds; of course bee-feed was cut off. Flowers yielded but a scanty supply. Bees barely secured a living. I got 1,000 pounds of surplus honey, and fed nearly 400 pounds of it back, which induced robbing, and I had a fearful time until I got a barrel of sugar and fed with that, which stopped the robbing. Out of 85 colonies, 84 were robbing. Queens from the East came late, and it was hard work to save them, but I succeeded in saving enough to preserve my breeding queens. I found one colony very quiet during all the excitement. After order was restored, and I felt safe, I opened the hive late in the afternoon, and I found the body of the hive full of bees, brood and stores, and the top tier of sections ready to take off.

I built up several colonies with the combs and bees, and marked that colony for breeding, as the bees were quiet and well marked for pure Italians. I am sorry to state that I lost the queen and all her queen-cells, owing to the long wet spells. By selling and reducing my number of colonies, I brought about 24 colonies through the spring of 1884, and increased them to 100. I had 2,000 pounds of No. 1 extracted honey, mostly blue-sage, but no comb honey, and the bees were all healthy and in good condition. I obtained 90 pounds of beeswax from refuse combs. I use foundation, and I think it profitable. I save all combs in frames, sulphur them occasionally to kill moths, melt all imperfect ones into wax and replace them with foundation. I use no wires in the foundation.

To make bees profitable in this county, the business should be connected with fruit-raising, or some other light business. Poultry might do for some, but I would prefer fruit and using a drier. One cannot depend alone on bees (I refer only to my own section). After the honey season is ended, one can, with a portable drier, go into many orchards or vineyards and go into the drying business on any terms he can make; the bees will not interfere. In case one goes into the poultry business, he can be busy while the bees are breeding up, and manage to have the poultry so that they will not need the care just as the bees want the most; and when the bees are able to take care of themselves, or do not need much care, then the chickens can be attended to. One thing that this county needs is a law or laws in regard to keeping diseased bees.

Napa City,+○ Calif.

For the American Bee Journal.

Wintering Bees, etc.

REV. G. T. WILLIS.

To say that sad disaster has come to the "blessed bees" will express it all. Last fall I packed 38 colonies in straw, as I have for the last seven years. I always have had good success in wintering until this winter, but on Feb. 27 I examined them and found 15 colonies dead. The rest I fixed up in good shape for spring, hoping that they would weather the storm. On Feb. 28, I left home and returned on March 30, to find only 9 colonies alive, and 4 of those with only a queen and a handful of bees.

I have been working hard for the last 7 years to build up an apiary so that I might make something to add to my small salary, in order that we would not have to practice the most rigid economy in our domestic affairs; but now my hopes are blighted, at least for the present. But as I have plenty of hives and combs, I shall try what I can do towards building up again, though it is rather slow work with me, as I am away from home a great deal. My bees evidently died from diarrhea.

I have been following very closely the discussion on the "pollen theory," and I am inclined to believe there is something in it; at least when we have such winters as that of 1884-85, when the bees cannot fly to void their feces for two or three months. In nearly all the colonies that died I found brood capped over. I followed the advice of W. F. Clarke and others, and kept the snow shoveled away from the entrances, but when we have another such a winter as the past, I think I shall leave them buried under the snow.

My way of introducing queens is to take out a frame with the bees adhering to it, and shake them down in front of the hive, and then put the queen with them, and let her run into the hive with the bees.

I notice that some are complaining that the sections stick fast to the rests. Now, if they will have the strip of tin cut ¼ of an inch wider than usual, and then have the tinner turn the edges ⅛ of an inch at a right angle, they will never be troubled with the sections sticking, and then it strengthens the rests very much.

As far as I can learn, the most of the bees are dead in this region of the country.

Hoopeston,○+ Ills.

Read at the Bee-Keepers' Congress, at New Orleans.

Bee-Keeping as a Pursuit.

ARTHUR TODD.

This subject may be regarded from two stand-points—that of the man who with income assured from other sources, pursues bee-keeping for its pleasure; and that of the man who, wishing to increase his slender income, or actually make an income, turns to bee-keeping with a view to profit on the capital and labor to be invested. But, as to the latter is denied none of the pleasures enjoyed by the former, it is from the latter stand-point alone that I will review the subject.

Bee-keeping is, strictly speaking, a branch of agriculture, and many a farmer is to-day getting a greater return from his investment in bees than that received from any of his other stock; but right here I say that bee-keeping as a pursuit has to-day become a "specialty." The man who enters upon this pursuit (leaving the question of capital aside) must be one endowed with physical and mental ability—a man with open eyes and ears, and a man for emergencies, prompt to do what is necessary at once, and one who is not easily discouraged.

The physical ability is required because bee-keeping demands real hard work—yes, back-aching work—not suitable to the sick ladies and gentlemen so often ill-advised to go into bee-keeping. The mental ability is required to keep the bee-keeper abreast of the times and its rapidly changing conditions. Bee-keeping is now a science, a study, and the conditions which govern one season, or colony of bees, will be completely changed for the next. Every stage in the life of a colony of bees requires to be understood. There must be no "guessing," and this will bring us to the cultivation of the habit of observation, and a disposition to hear all that one can upon the special subject.

Emergencies will occur needing heroic treatment, but the bee-keeper with mind and hand trained by experience and thoughtful consideration of his "specialty," will rise superior to any occasion, and when discouragement comes, as it inevitably will, in the words of the immortal Longfellow, "He will look not mournfully into the past, it comes not back again, but wisely improve the future for it is his."

Pleasure and profit go hand in hand, as a rule, in this specialty, although the former is not unalloyed by a liberal application of the "business end" of the little busy bee, and the latter by a recurrence of poor honey seasons. In nature is found both the beautiful and the sublime; in the hive both are constantly under the bee-keeper's eye, teaching him to look with amazement from "nature up to nature's God." As he views his hive, and sees the city grow, and population increase, the waxen walls, and stores well filled, the free-born citizen hurrying to and fro, each with his special task, outside of the thoughts of profit will come to the most unimpressionable, thoughts of wonder and admiration for the works of that great Architect of the universe who said, "Let there be life and there was life."

The profits of bee-keeping are what? To many a one they hold out the hopes of "the glorious privilege of being independent;" and to obtain these profits the specialist gifted with the requisite mental and physical qualities, must be "the right man in the right place." He must have hives of the movable-frame order. Moses Quinby wrote thus, in 1858: "There is not the least doubt, in my mind, that whoever realizes the greatest profit from his bees will have to retain the movable combs in some form;" and who of us will gainsay this to-day? Out of the many styles of movable-comb hives now in existence, the bee-keeper will select one best fitted for the business in which he means to engage, be it the production of comb or extracted honey, queen-rearing, bee-selling, or a combination of all.

The specialist who intends to rear bees for sale, will do well to employ that hive which will take the size and style of frame most in use in the district in which he resides. Interchangeability of parts is a grand secret of success, and the bee-keeper who can sell a colony of bees, or buy a colony, well knowing that each and every frame is usable in his own or his neighbors' hives, has made a step in the right direction. The main points in a good hive are, "Simplicity of construction, combining plenty of bee-space with perfect ease of manipulation."

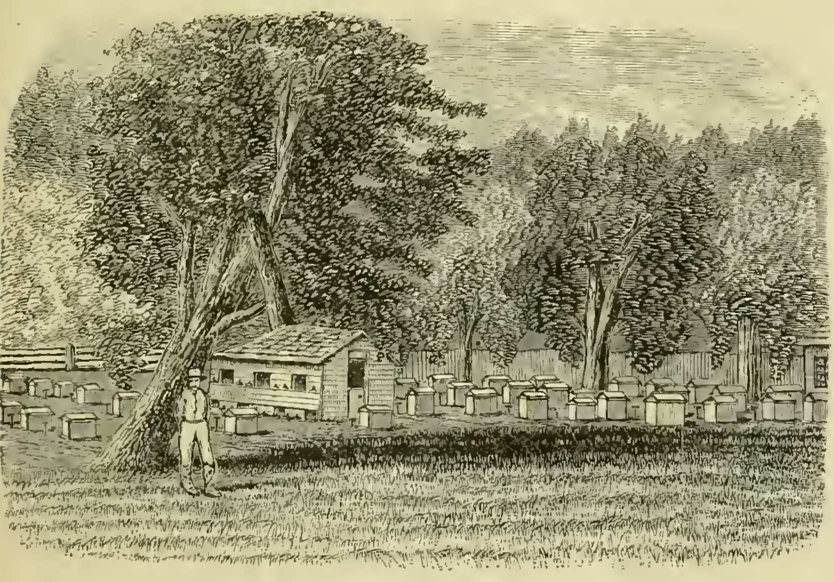
The race of bees will next engage the specialist's attention. Study and experience, and also the actual line of business engaged in, will best decide this point. The black, the Italian, the Syrian, the Cyprian, and the Carniolan, alike have their votaries. At present, for all purposes of sale and honey-gathering, the Ligurian or Italian-Alp bee is the principal one in demand; but the very best race of bees will afford but little profit unless the queens are carefully looked after. As fast as signs of senility appear, these should be removed and their places supplied by younger and more vigorous queens. The apiarist for profit should not only rear queens, but know how, when and where to replace them. He should also know the requisites of a good queen, and how to judge of her progeny.

Pasture to the bee-keeper is everything; if that be poor, his returns will be poor; hence he should carefully examine his location. Districts vary greatly in their flora, and by a careful study of this question before locating, disappointment will be avoided. The bee-keeper should be a walking calendar of the flora of his neighborhood for miles around, then, as the honey comes pouring in, he can tell its source and label it accordingly. This knowledge will enable him to build up colonies, and follow the old advice, "Keep your colonies strong," so that when the honey does come, there are bees to gather it in.

The management of bees kept for profit will vary according to the object of the bee-keeper, whether it be the production of honey or the rearing of bees or queens. In running for honey alone, we have the swarming and the non-swarming methods. The experiences of good bee-men are so diversified that one is reminded of the old saying, "when doctors differ, the patient dies." The bee-man must strike out his own line of action suitable to his own special circumstances. In running for extracted honey, swarming is, to a great extent, controlled, for "Poverty maketh humble;" but I insist that the good bee-man will know the condition of each hive, and act accordingly.

The specialist is a man who reads, and although he may not get or use a single one of the many traps, or patent articles now offered, he should know all about them; for, at any moment, what he has read about these things may give him an idea the successful carrying out of which may help him over a difficulty. The capacity of the bee-keeper to attend to a certain number of colonies, be it greater or less, will have a great influence on the profits of the pursuit. As a pursuit, bee-keeping should not be entered into without careful thought and consideration as to the capital required, the location, and the suitability of the employment to ones temperament. To-day it is possible for the intending bee keeper to serve an actual and willing apprenticeship before embarking in the business, in the yards of well-known and successful bee-masters. I need not dwell upon the advantages of this plan, for they are obvious.

To the enthusiast with but small experience, I would say, "Go slow!" Read the good bee-literature now so easy to be obtained, and never be above learning from others. Visit bee-keepers wherever you can enjoy the privilege, attend bee-conventions, and gradually a store of knowledge will be gathered upon which you will draw with profit later on.



APIARY OF HAMBAUGH & STONE, SPRING, ILL.

Profitable bee-keeping as a pursuit is, to my mind, the out-come of the union of two great factors—"talent" and "tact;" for "talent is power, tact is skill; talent is wealth, tact is ready money; talent knows what to do, tact knows how to do it; talent makes the world wonder that it gets on no faster, tact excites astonishment that it gets on so fast; talent may obtain a living, but tact will make one. Talent convinces, tact converts; talent is an honor to the profession, tact has the knack of slipping into good places, and keeping them; it seems to know every thing without learning anything; it has no left hand, no deaf ear, no blind side, with a full knowledge of the Pythagorean doctrine, 'that a man ought rather to be silent, or say something better than silence.'"

I submit these remarks to my fellow bee-keepers, being painfully conscious of many short-comings from the high standard of excellence that man should attain to, who in these days goes into "bee-keeping as a pursuit."

Germantown, Pa.

For the American Bee Journal.

How my Bees have Wintered, etc.

17—C. THEILMANN, (100—195).

Another long and severe winter for the bees closed here on March 26, which was the first day warm enough for the bees to have a cleansing flight. It was 54 degrees above zero at noon in the shade, and the bees enjoyed it very much, after a confinement of 130 days. Six out of 106 colonies starved, but the remainder, with a few exceptions, are in good condition, although they have consumed much food. Three colonies are alive from the 87 which were in my bee-house that burned down on Jan 25. This was a grievous loss, but by it I have gained much valuable information concerning the condition of my bees at that time of the year, as I got all the hives out before it had entirely burned down, and I could see the exact condition of all, which I will describe.

The 87 colonies were in fine condition before the fire, but from all appearances, the condensed smoke for three days in the bee-house, had driven the bees out of the hives upon the sawdust, which was on the floor and burned, thus leaving most of the hives without any bees in them; but in 40 hives there were more or less live bees, and they were put into another bee-house near by, and in a week from that time there were only 7 alive, and at present only 3 of them. I examined the most of the combs, and extracted the honey, and I found the following: Forty-eight colonies had more or less sealed brood, 5 of them had brood in 5 frames, 2 had brood in 4 frames, and 17 had more or less eggs and larvæ in the combs; the rest had neither brood nor eggs. All the combs were nice and clean, and there were no signs of disease. The most of the time the temperature was 40 degrees above zero, though a number of times in January it fell to 30 and 28 degrees above, when the temperature was at 35 and 38 degrees below zero on the outside.

I have wintered part of my bees for three years in the same bee-house, with about the same temperature, and apparently the same condition, with but little loss; but if brood-rearing were the cause of bee-diarrhea, as some writers claim, I would probably have lost over two-thirds of my bees every year, for this sad experience shows that breeding had commenced before Jan. 15, and as long as there is any food in the hives, they will surely keep at it all winter; it proves, too, that it is not necessary for a young bee to have a cleansing flight soon after it emerges from the cell; i. e., within a week or so; for, if it was true, every colony that would rear brood for 75 to 85 days would be of no value in the spring—the old bees would be worn out and the young ones would be dead.

I do not want to be understood to say that brood-rearing in confinement is any benefit, but on the contrary, if I could control it, I would not have bees breed before March 1, in this latitude. I have experimented for the past 12 winters to find out how I could prevent my bees from breeding in winter, and at the same time have them warm enough to winter well, but as yet I have not entirely overcome the difficulty, although I have come somewhat nearer to a successful method of wintering my bees. I have tried out-door and in-door wintering; chaff-packing and snow covering; frame-spreading, and holes through the combs for passage-ways; upper and lower ventilation; side-hill and above-ground bee-houses, and for the past two winter I have wintered part of my bees in a cave; i. e., a hole in the ground 7 feet deep, and 2 feet of earth over the roof, a ventilating pipe under ground, and one with an elbow through the top to regulate the temperature in the fall and towards spring. From what I have observed with this cave, I believe that it is the best, cheapest and safest way to winter bees in our northern climate. The outside temperature during the two winters, for over three months in the coldest weather, did not affect the inside of this cave more than 2 degrees; 40 degrees above zero was what the thermometer indicated inside of the cave when the temperature was 35 degrees below zero on the outside; and at 35 degrees above zero outside, for six days, the inside temperature was 42 degrees above zero.

The 60 colonies which were wintered in this cave came through in fine condition, excepting 2 which starved. They were put in on Nov. 17, 1884, without any preparation, excepting that an 8-penny nail was put under each corner between the honey-board and the hive. Also the bees that I had in the cave last winter came through nicely. Hereafter I intend to winter all of my bees in caves, regardless of hibernation, pollen, and brood-rearing in confinement.

As Mr. Doolittle has given such an interesting article on "The temperature of bees in winter," page 181, I will give my observations of the movements of the cluster in the hive in winter confinement. Last fall I put 46 colonies in a side-hill bee-house, making a row 3 tiers high around the inside of the house. They were prepared in the same manner as those in the cave, except that 7 of them were stored among the others without anything over the frames, and the entrances were also left wide open. One of the 7 was placed near the door on the top row, and one on top at a back corner; the other 5 colonies were in the middle and lower tiers, with a space 1¾ inches wide between the frames and the hive above them. I could not see the movements of the 5, but I did see the 2 on top every time I entered the bee-house. Before this I had an idea that the cluster would stay in one place as long as they had plenty of food, but I discovered that it was otherwise.

During the first month the cluster staid in one place near the centre of the hive, but after that (I wish that Mr. Clarke could have seen their movements, for it surely would have cured him of bee-hibernation) they commenced to move very slowly to the left side and toward the back part, across to the right side, thence toward the front and again to the centre, and then made the same round till I put them out on the summer stands. They were very quiet all the time, but when my breath would come in contact with them, they were instantly upon the alert. A small part of the cluster was always on top of the frames. They consumed but little honey, as the honey all around the outside was still sealed when I put them out. The colony on the back corner acted nearly like the one near the door. The 7 colonies came through in good condition, but some of them consumed more food than others, but not as much as the other remaining 39, and they had but little brood—only one little patch in each hive. The temperature was 40° above zero during the first month, and then it fell to 30° and 28° above, and continued so until within four days before I put them out. Four out of the 40 starved; they had consumed far more honey then those in the cave, and are not as strong in numbers, and some of them showed signs of diarrhea. The 46 colonies were somewhat disturbed when taking in and out the 40 colonies from the burned bee-house.

Nearly all the bees in this vicinity that were left on the summer stands are dead. I find that sugar syrup is a better winter food than honey, as the bees do not eat as much of it on account of not liking it so well. I have experimented in this in hunting bees; they would leave the sugar syrup and go to the flowers, but they would not leave the honey and do so. This may account for the slim bodies of bees which are wintered on sugar syrup.

Thielmanton, Minn.

* * *

For the American Bee Journal.

The Imperfections of Nature.

ALLEN PRINGLE.

On page 166, Mr. Joshua Bull takes exception to some of my positions in a previous article on page 73. Mr. B. considers Nature to be quite perfect in her laws, operations and methods, and looks upon the honey-bee, especially, as being perfectly unerring in its instincts and works.

In my article referred to, I gave one instance out of many which have come under my observation, showing the erring instinct of the honey-bee. From the facts given, Mr. B. draws a conclusion just opposite to mine; but he proves himself a careless reader. I did not say what Mr. B. ascribes to me, viz: that the old queen that was being prematurely superseded in the spring, was "in the dumps in the corner" before the workers commenced the queen-cells. On the contrary, I said that it was after the queen-cells were capped over that the old queen was "in the dumps," as we certainly would expect her to be under such circumstances. When the snow still covered the ground, and the mercury was down near the freezing point, a young queen, finding rivals nearly hatched out in her own domicile, would hardly take the matter philosophically any more than the old one. I repeat, this was a foolish, short-sighted, and suicidal piece of business on the part of those bees, amply demonstrating imperfect instinct.

Mr. Bull thinks that I have "overreached myself, and have gone wide of the mark" when I assert that "Nature abounds in monstrosities and imperfections," and that "we are continually improving upon her works and methods." He admonishes me in a most friendly and fatherly manner not to be "too hasty in my conclusions." Now, I beg to assure Mr. Bull that the above conclusion has been arrived at deliberately after 20 or 30 years of observation and study. When a critic says, "Come and let us reason together," as Mr. B. does, I get on friendly terms with such an opponent at once, for "reason" is my talisman and guiding star. Not all, however, who appeal to Reason, are either able to follow her, or willing to loyally abide by her decisions.

Mr. Bull says if any one can show him wherein we are "continually improving upon Nature's works and methods," he will then "render honor to whom honor is due." He wants to know "what these improvements are," and what the imperfections of Nature are. Now, the whole space of a score of bee-papers would not suffice to give Mr. B. what he calls for here; but just to give him a glimmer of light on this great subject, I may be permitted to bring to his notice a few facts.

First, as to the improvements: We will glance at some instances in agriculture and horticulture as well as apiculture. It is an incontrovertible fact that bees in their natural and wild state, domiciled in hollow trees, rotten logs, crevices of the rocks, etc., will sometimes swarm 3 or 4 times in the season, both seriously weakening the parent colonies and committing the late swarms to almost certain starvation during the following winter, as the late swarms are frequently found in their natural abodes, starved to death, without a particle of honey. Now, this is a case of the bees following their instinct unmolested. It is Nature's "method;" but man, with his reason superior to instinct, has improved upon this method by preventing the after-swarms or uniting them and thus saving all. In many ways does the intelligent apiarist modify and improve the instincts and methods of the bees by judicious breeding and manipulation.

If we look into apiculture and horticulture, the instances of the intelligence of man improving upon the methods of Nature are obvious on every hand. Look, for instance, at the different kinds of our splendid horses under domestication, all derived from a single, original inferior type of horse. Look also at the variety and superiority of our sheep at present under domestication. In referring to what has been accomplished by expert breeders in improving sheep, Lord Somerville says: "It would seem as if they had chalked out upon a wall a form perfect in itself, and then had given it existence;" while Youatt remarks that the breeder has power "not only to modify the character of his flock, but to change it altogether." It is the general opinion of naturalists that all the different breeds of pigeons have been developed from the rock-pigeon (Columba livia). In the department of horticulture, we may note the many kinds of apples which we now have, so palatable to the taste; and these have, all through the application of this science and art by man, been derived from one original, inferior form of apple. So also of potatoes, and to some extent of the grains. If these examples are not improvements by man upon the methods of Nature, language has no meaning.

The "gad-fly" deposits its eggs upon the limbs, shoulders, and flanks of our horses, whence they find their way into the animals' stomachs, where they develop into bots, which frequently cause the death of our most valuable horses. Only the other day I saw a fine broodmare, in her prime, die in great agony, of bots, after two or three days' illness. We made a post-mortem examination, and found the passage-way between the duodenum and colon completely obstructed by these creatures, and the stomach distended nearly to bursting, not being able to pass its contents through the blockade of bots. Four years ago I witnessed another fine young horse drop in the harness and die in less than five minutes. On examination we found the stomach about half full of bots, and the mucous membrane nearly all gone, the stomach being actually perforated to the outside in two places. This, Mr. B., is Nature's method of doing business. This is the way she takes to propagate the "gad-fly" which follows its instinct most faithfully in depositing its eggs where the horse will lick them into its stomach. It is, no doubt, a good method, and a perfect method to propagate the fly, but it is rather hard on the poor animal and its owner. At any rate the latter decidedly objects to such a method, and sets himself to thwart such "perfection" (?) in Nature! He improves upon Nature by either destroying the gad-fly, removing the eggs after they are deposited, or giving the grub a poisonous dose in the stomach after it is hatched.

The apple-tree borer, which often destroys our choicest trees, is hatched in the bark from an egg deposited by the parent beetle in strict accordance with its natural instincts. This is Nature's method of propagating the borer, but it is a bad one, and man applies science and thwarts Nature again. He improves upon her method by improving the "knit" out of existence with soap-suds or weak lye applied to the tree. There are some half-dozen parasites (including the tape-worm) which naturally infest the human body and prey upon it. This is another of Nature's methods; and as Nature is all right and perfect, Mr. B., to be consistent, ought not to attempt to dislodge any of these parasitic friends which might happen to take up quarters with him or in him. Some 10 or 12 years ago the "Colorado potato beetle," the natural food of which consists of the vines of the potato, either wild or domesticated, started from its haunts out near the Rocky Mountains, on a pilgrimage eastward, and struck us here in Canada about seven years ago, since which, every year, we have been fighting "his beetleship" either with turkey-gobblers or Paris green, in order to raise a potato all. This is another of Nature's choice methods. The beetle lives, multiplies, and flourishes admirably on our choicest vines; but according to Mr. Bull's philosophy, we ought to let him sit up there on our potatoes and enjoy himself without molestation.

Talk of Nature being perfect! Why, there is scarcely an animal or plant in the whole two kingdoms of Nature in which some imperfection cannot be noted. Animals and plants abound with imperfect and useless organs, mostly rudimentary and without any function—such as eyes, legs, lungs, mammary glands, muscles, teeth, wings, pistils, stamens, etc. There are animals that live in the dark with blind eyes; the dugong has tusks that never cut through the gums; calves have teeth in the upper jaw that never cut; the Guinea pig has teeth that are shed before it is born; the boa-constrictor has little bones under the skin towards the tail which are the mere rudiments of hind legs and a pelvis; there are whales and fishes with useless bones in the hinder parts of their bodies, which seem to be either intended for, or the remains of, hind legs; in the "Anguis" worm there is a set of shoulder-bones in the body, but no legs attached to them; then there are the "dangling horns" in some cattle, and the "bastard wing" in some birds, and numerous other imperfect and useless organs, had I time and space to enumerate them.

Selby, Ont.

* * *

For the American Bee Journal.

Disastrous Effects of Honey-Dew.

7—A. D. STOCKING, (4).

I can now make my report as to wintering. I think that the past winter has been the most disastrous one to bee-keepers that has ever been experienced in this country, and there will be a great deal of speculation as to the causes of the great losses, but I believe that if a careful examination and study of the conditions and surroundings are made, that a satisfactory solution to the problem will be arrived at; and I fully believe that where the following conditions existed, that the losses have been comparatively light, considering the extreme severity of the winter; viz: where the hives were full of bees, plenty of good spring honey or sugar syrup for stores, and where they were kept dry and protected with chaff cushions or other absorbents over the brood-frames. I wish that those whose bees were put into winter quarters under all of these conditions, would report as to the result, and also where they were wintered ; also, that all who have met with severe losses, would report the extent of their losses, the manner of wintering, the condition the bees were in in the fall, and the kind of stores that the bees had to winter on. If all would report, stating all the particulars, it would be of benefit in arriving at the solution of this all-important question.

My losses have been extremely heavy, having but 4 colonies left, and they are rather weak ; still, I think that I can account for it all. Heretofore my losses have been very light. My bees had all the conditions I have mentioned, but during last August and September they gathered a quantity of honey-dew which was mostly stored in the centre of the brood-frames, and which would be the first stores consumed. If I could have extracted all the honey-dew and fed sugar syrup, as I ought to have done, I think that my losses would have been comparatively light ; but owing to poor health and lack of means to buy sugar, I could not do so, and so I had to take my chances. Upon examining my bees in the first week of January, after the first thaw, they appeared to be all right, showing no signs of diarrhea, and but few dead bees. There was not another chance to examine them until March 1, when I found 39 dead colonies, which, I think, was owing to its being so cold that they could not move to get the honey, as there was but little signs of diarrhea. The balance of them seemed to be badly affected, and dwindled very fast. I am satisfied that if my bees had had good spring honey or sugar syrup, nearly all of them would have survived the winter. They were wintered on the summer stands, most of the hives containing chaff cushions, and passage-ways over the brood-frames, the same as I have always wintered my bees. They all left plenty of honey. My losses are discouraging, but I am not discouraged. I have a nice lot of combs to build up on, and a quantity of nice honey to extract.

•Ligonier,♂ Ind.

Local Convention Directory.

1885. *Time and place of Meeting.*

May 2.—Central Illinois, at Jacksonville, Ill.
Wm. Camm, Sec., Murrayville, Ill.

May 4.—Linwood, Wis., at Rock Elm Centre, Wis.
B. Thomson, Sec., Waverly, Wis.

May 5.—Western Michigan, at Fremont, Mich.
F. S. Covey, Sec., Coopersville, Mich.

May 5.—W. New York and N. Pa., at Cuba, N. Y.
W. A. Shewman, Sec., Randolph, N. Y.

May 5, 6.—Western Maine, at Mechanic, Falls, Me.
F. D. Wellcome, Sec., Poland, Me.

May 7.—Progressive, at Bushnell, Ills.
J. G. Norton, Sec., Macomb, Ills.

May, 7, 8.—Texas State, at McKinney, Tex.
W. R. Howard, Sec., Kingston, Tex.

May 9.—Northern Ohio, at Norwalk, O.
H. R. Boardman, Sec., E. Townsend, O.

May 12.—Keystone, at Scranton, Pa.
A. A. Davis, Sec., Clark's Green, Pa.

May 12.—Cortland Union, at Cortland, N. Y.
W. H. Beach Sec., Cortland, N. Y.

May 19.—N. W. Ills., and S. W. Wis., at Davis, Ills.
Jonathan Stewart, Sec., Rock City, Ill.

May 28.—Mahoning Valley, at Newton Falls, O.
E. W. Turner, Sec., Newton Falls, O.

May 28.—N. Mich. Picnic, near McBride, Mich.
F. A. Palmer, Sec., McBride, Mich.

May 29.—Haldimand, Ont., at Nelles' Corners, Ont.
E. C. Campbell, Sec.

June 19.—Willamette Valley, at La Fayette, Oreg.
E. J. Hadley, Sec.

Dec. 8—10.—Michigan State, at Detroit, Mich.
H. D. Cutting, Sec., Clinton, Mich.

☞ In order to have this table complete, Secretaries are requested to forward full particulars of ime and place of future meetings.—Ed.

SELECTIONS FROM OUR LETTER BOX

Good Honey-Season Anticipated.—Nathan Davis, Wyckoff,○+ Kans., on April 20, 1885, writes :

Last spring I began with 30 colonies of bees, and during the season I increased them to 60 colonies by natural swarming. I have not suffered as heavy a loss during the past winter as some of the bee-keepers in Kansas. I wintered my bees on the summer stands. I have now 30 colonies in good condition, the majority of the others having died from starvation. Bees stored no surplus honey last season. The prospects never were better for a good honey season than at present. There are but few bees kept in this locality. Fruit trees will be in bloom in a few days. I have been sowing all kinds of clover ; the melilot or sweet clover does splendidly here, and it blooms when there is nothing else for the bees to work on. I will try to save a quantity of seed from it the coming season.

Report, from R. B. Oldt, (100—98), Ludington,+○ Mich., on April 15, 1885:

My bees had good flights on April 3 and 6, after a confinement of five months and five days. They could have withstood being confined for a month longer, as they came out as clean and bright as they were last fall when I put them in. I think that if any close observing bee-keepers could see my bees now, they would have no difficulty in settling the wintering problem. I lost 2 colonies by starvation. Who can beat that in 43° north latitude ?

No Natural Pollen Yet.—O. J. Hall, Union,♀ Mich., on April 18, 1885, says :

Last fall I put 75 colonies of bees into winter quarters, and I have lost 2 of them. I removed them from the cellar on March 31 and April 1 ; some of them have died since, some are weak, some are medium, and some are strong. No natural pollen has been brought in yet. This is my ninth season in the bee-business.

Bees Nearly all Dead.—J. G. Norton, Macomb,+○ Ills., on April 16, 1885, writes thus :

The winter is over, and as I hear of the general heavy losses of bees, I will report a few from this locality. One bee-keeper lost 59 out of 69 ; another 100 out of 125 ; another 80 out of 89 ; another 40 out of 42 ; another 90 out of 100 ; and many others owning from 5 to 30 have lost all ; in fact, it is a hard matter to find any bees left in this part of the State, where, last fall, they could be numbered by the thousand colonies. I have been very well satisfied with my success, although I cannot report "no loss." I packed 36 colonies with chaff last fall, and I have lost 3 of them, one being queenless, and the other 2 having been very light in bees last fall ; all the rest are in very good condition. Many reasons are given for the great loss of bees, but wherever I see a colony that had plenty of stores last fall, and the sides and the top of the hive packed with chaff or sawdust, allowing no moisture to remain among the bees, there I find a good colony to-day. I am, however, inclined to consider the pollen theory ; but from experience and thorough investigation, I am not yet ready to take any interest in hibernation.

Successful Wintering.—David Wilcox, Orford,⊙ N. H., on April 13, 1885, writes thus :

I am very glad to be able to report that my bees are in fine condition. I wintered my bees in the New England No. 7 hive. I sold all my surplus honey for 25 cents per lb. I packed my bees as described by Mr. H. D. Davis, on page 234, and of the 44 colonies that I had last fall, not one was lost during the past severe winter. The combs are as bright, and the honey is as fresh as it was last fall. Two colonies that were second-swarms wintered all right, which convinces me that any colony that is well packed, and that has plenty of stores, will winter safely in a good hive. I do not think that my bees consumed more than half their stores during the past winter. I saw one frame filled with honey from top to bottom on both sides. I am very much gratified with my success.

Cider for Winter Stores.—E. Henkle, Washington C. H.,♀ Ohio, on April 16, 1885, reports as follows :

Having never seen anything in the Bee Journal from this part of Ohio, I consider it my duty to give at least a small report. I started in the winter with 52 colonies of bees, all in good condition, well packed with chaff and leaf cushions, and well sheltered from rain, sleet and snow on the summer stands. On Feb. 3, they had a nice flight, and all seemed to be doing well ; then it froze solid again until Feb. 28, when they had another flight, but at this time they had the worst attack of bee-diarrhea that I have ever seen. They spotted the hives and everything that they touched, and they have been dwindling and dying ever since. I have lost 14 colonies, all leaving plenty of honey in their hives. Last season was a very poor one for honey in this part of the State ; we had only a 3-weeks' honey-flow from white clover, when a drouth cut off the crop. We have to depend upon white clover, as we have no basswood in this part of the State. About the middle of August the bees began working on the apples and in the cider-mills, and continued it as long as there were any apples out. They must have stored quite a quantity of apple-jack in that time, and this was the first food they got when it became warm enough for them to take nourishment ; which, I think, accounts for their having the diarrhea. In 1880 we had just such a season as that of last year, and I lost every one of my bees. I then thought that cider was the cause of the loss, and I still hold that view. I think that the rest of my bees will survive, as the maple trees are in bloom, and the bees are carrying in pollen when it is warm enough for them to fly. I have 11 acres of Alsike clover for them to work on next summer, and one acre of melilot.

Neglected Bees, etc.—6—Wm. Malone, (38—9), Oakley,♀ Iowa, on April 9, 1885, writes as follows :

On page 133, I said that out of 231 colonies of bees, in this township, I did not think that 50 would live through the winter, but I can find only 18 alive now, and 9 of them are mine. Now, that our bees are dead, we are looking for the cause of their death ; some say that cider killed the bees, others say that it was honey-dew, but I say that it was neglect that killed them in this part of Iowa. I have examined a great many of the dead colonies, and in every case the bees had starved ; in many cases honey was in the same same comb, but none in reach of the cluster. In the summer of 1882, we had three times as much honey-dew as we had last year, and in August, too, and our bees wintered splendidly; last year our honey-dew was gathered in June and July, and our bees have all died. The trouble was neglect to prepare them as we should. The fall honey-flow was just enough to keep the queens laying until late in the fall, and the bees were in splendid condition for winter, as far as young bees was concerned, and the most of the colonies had honey enough to winter them if it had been within reach of the cluster. If the winter had been an open one, so the bees could have moved from one part of the hive to the other, after the honey, they would have wintered all right; or if the honey that was in 10 frames had been in 5, our bees would have been alive to-day. I would like to have those who have lost bees tell if in any of the hives there was honey where the dead bees were. It appears to me that the bees run out of honey when it was too cold for them to bring honey to the brood-nest, and I am satisfied that starvation has been the cause of the loss of 100 colonies where 1 died from diarrhea. The following is a description of my reversible-frame device which I intend to use during the coming season: Make an oblong wire ring 1⅛ inches one way and ⅞ of an inch the other; solder a wire in the centre on each side of the ring. The wires must be half the length of the end-bars, with a ¼-inch square turn at the lower end to enter a hole made in the end-bar edgewise, so that when the device is in place, the end-bars will be between the wires. One-half of the wire ring will answer for the bearing, and the other half for a rest on the top-bar, which, when reversed, will serve as the bearing.

Good Success in Wintering.—A. L. Refsnider, Greene,♂ Iowa, on April 20, 1885, writes as follows:

The loss of bees in this section is quite heavy, but mine have wintered splendidly. I had them on the summer stands in double-walled hives, packed with chaff and covered with snow. I had 14 colonies in the fall, and I now have 13 in good condition. The one I lost starved. My neighbor, Mr. Shirer, has not lost any of his bees. He had 9 colonies in the fall, and they are in good condition now. He also wintered them on the summer stands in the Quinby hive packed with chaff. Judging from reports from the southern part of this State, and other States, I think that we had remarkable success in wintering our bees.

Report, from E. France & Son, Platteville,♀ Wis., on April 20, 1885:

Last fall we put into winter quarters 455 colonies of bees in 6 apiaries. On Nov. 15, 1884, they had a good flight, and on March 9, 1885, they had another flight, with the mercury at 48° above zero. They had no flight of any consequence between those dates. Forty-six days of that time the mercury was down to zero and below, the coldest being 34° below zero. We began to examine them on March 9, finishing on March 31, and we found 388 colonies alive. The second examination was finished on April 15, and we found 374 colonies alive. The first pollen was brought in to-day. We think that during the past winter we learned something about wintering bees. We winter all of our bees outdoors.

Spring Dwindling Feared.—L. Highbarger, Adeline,♂ Ills., on April 17, 1885, writes:

Bees are faring very poorly on account of the past hard winter, and they are having a bad spring. If such weather continues much longer, I apprehend that there will be much "spring dwindling," as bad wintering always causes it.

An "Eden" for Bee-Keepers.—A. W. Osburn, of Cuba, on April 16, 1885, sends the following condolement to Northern bee-keepers:

When I read in the BEE JOURNAL of the great losses of bees among my fellow bee-keepers in the North, during the past winter, I feel like offering my heartfelt sympathy, and wishing that some of them would conclude to start anew in this country, where there is no winter, and plenty of honey during 8 months out of the 12; and for those 4 remaining months, all that is needed is a few pounds of sealed honey in the hive, and the whole year goes by with no hibernation or bee-diarrhea.

Using Depopulated Hives.—Mrs. M. R. Brown, Morse,○→ Iowa, enquires as follows as to the advisability of using hives in which bees have winter-killed:

I wish to ask if it would be advisable to hive bees in hives where bees have winter-killed. The combs are nice and bright, and some of the hives have a good supply of honey in them. My husband kept bees for six years, and always had good success; but he died last October, and no attention was paid to the bees, so they were left out-doors all winter. Out of 16 good colonies there are but 5 left.

[Hives in which bees have simply "winter-killed" will be harmless. The bees will soon clean them all up, and do it better than you can.—ED.]

Everything Promises Well.—W. S. Hart, (117—142), New Smyrna,○→ Fla., on April 13, 1885, writes as follows:

I expect to be able to make a good report for this part of Florida, this season, as we now have a large number of bees in this immediate vicinity, and everything promises well for a large crop of honey. The bees commenced to swarm much later than usual this spring, but they are now coming out freely, and all are large swarms. The orange bloom is now in its prime, and is full a month later than two years ago. The trees are blossoming very full, and the bees are having a "high old time" among them.

Good Clover Prospect.—Dr. N. P. Allen, Smith's Grove,♀ Ky., on April 16, 1885, writes as follows:

I have just examined my bees, and I found them in good condition. I have lost only 2 out of 50 colonies. Peach trees are just blooming, and the clover prospect is good for a fine harvest. From 1-3 to ½ of the bees are dead in Southern Kentucky, caused by a too free use of the extractor and a failure in the fall harvest, leaving many colonies without sufficient stores; and the bee-keepers failed to protect their bees from the winter's blasts; but with a good honey season, we will be able to harvest an average crop of honey.

Bees Almost Extinct.—Peter Billing, Pawnee City,○↘ Nebr., on April 18, 1885, writes as follows:

The saying, "Evils will cure themselves when human skill seems to fail," has verified itself again in our midst during the past winter. Bees were getting pretty thick in this vicinity, but the past winter has thinned them out. One of my neighbors said that he expected to lose half of his bees, but as he only saved 4 colonies out of 40, he lost more than he anticipated. Out of 193 colonies, last fall, myself and eight other neighbors have lost 175. It is also to be kept in view, that those colonies still living are nothing more than nuclei. A great many more bee-keepers having from 2 colonies upwards, might be mentioned, which, as a rule, lost all. The shortness of winter stores, the severe winter, and the lack of care, are, I think, the causes of loss.

Convention Notices.

☞ The next annual meeting of the Keystone Bee-Keepers' Association will be held in the Court House in Scranton, Pa., at 10 a. m. and 1.30 p. m. on May 12, 1885. At the morning session, after the President's address, which will include a report as delegate to the Bee-Keepers' Congress at the World's Fair in Feb. last, the annual election of officers will take place. While the Association is but just commencing its third year, we congratulate ourselves in having a working membership of over 50; yet there remains much to be accomplished, and we trust that all who keep bees, whether for pleasure or profit, will attend this meeting.

ARTHUR A. DAVIS, Sec.

☞ The ninth Quarterly Session of the Western Maine Bee-Keepers' Association, will be held at the residence of Mr. Charles Bonney, Mechanic Falls, Me., on May 5 and 6, 1885. The opening session will be on Tuesday, May 5, at 1 p. m. Parties desiring to display their goods and wares should send them to the Secretary, at Mechanic Falls, Me., who will place them on exhibition and care for them free of charge. This is the most important meeting of the year. All are cordially invited to be present.

F. D. WELLCOME, Sec.

☞ The Northern Ohio Bee-Keepers' Association will hold their annual meeting in the Council Chamber, at Norwalk, O., on Saturday, May 9, 1885. Subjects of immediate practical value will be discussed. Officers will be elected for the ensuing year. No one engaged in the production of honey can afford to be absent. H. R. BOARDMAN, Sec.

☞ The Texas State Bee-keepers' Association will be held on Thursday and Friday, May 7 and 8, 1885, at the apiary of Judge W. H. Andrews, at McKinney, Tex. All interested in the advancement of apiculture, are earnestly requested to be present and make this a memorable meeting of the Association.

W. R. HOWARD, Sec.

☞ The Progressive Bee-Keepers' Association of Western Illinois will meet in Bushnell, Ill., on Thursday, May 7, 1885. Let every bee-keeper who can, be present and enjoy the meeting. J. G. NORTON, Sec.

☞ The Bee-Keepers of Western Michigan will hold their spring meeting on May 5, 1885, at Fremont, Mich. All are invited to attend. F. S. COVEY, Sec.

☞ The Willamette Valley Bee-Keepers' Association will hold its second meeting at La Fayette, Oregon, on the third Tuesday in June, 1885. All who are interested are invited to attend. E. J. HADLEY, Sec.

☞ The Central Illinois Bee-Keepers' Association will meet at Jacksonville, Ill., at 10 a. m., on Saturday, May 2, 1885.

WM. CAMM, Sec.

☞ The spring meeting of the Cortland Union Bee-Keepers' Association will be held in Cortland, N. Y., on May 12, 1885.

W. H. BEACH, Sec.

☞ The Mahoning Valley Bee-Keepers' Association, will hold its next meeting at Newton Falls, Ohio, on Thursday, May 28, 1885. E. W. TURNER, Sec.

☞ The second annual meeting of the Western N. Y. and Northern Pa. Bee-Keepers' Association will be held at Cuba, N. Y., on Tuesday, May 5, 1885.

W. A. SHEWMAN, Sec.

Special Notices.

☞ We want one number each of the BEE JOURNAL of August, 1866—February, 1867. Any one having them to spare will please send a Postal Card. We will pay 50 cents for one copy of each of the two numbers.

☞ **Sample Copies** of the BEE JOURNAL will be sent FREE upon application. Any one intending to get up a club can have sample copies sent to the persons they desire to interview by sending the names to this office.

☞ **Preserve your papers** for reference If you have not got a Binder we will mail you one for 75 cents, or you can have one FREE if you will send us 3 new yearly subscriptions for the BEE JOURNAL.

☞ To create Honey Markets in every village, town and city, wide-awake honey producers should get the Leaflets "Why Eat Honey" (only 50 cents per 100), or else the pamphlets on "Honey as Food and Medicine," and scatter them plentifully, and the result will be a DEMAND for all of their crops at remunerative prices. "Honey as Food and Medicine" are sold at the following prices :

Single copy, **5** cts. ; per doz., **40** cts. ; per hundred, **$2.50.** Five hundred will be sent postpaid for **$10.00**; or **1,000** for **$15,00.** On orders of **100** or more, we will print, if desired, on the cover-page, "Presented by," etc., (giving the name and address of the bee-keeper who scatters them).

To give away a copy of "Honey as Food and Medicine" to every one who buys a package of honey, will sell almost any quantity of it.

☞ The Farmer's Account Book contains 166 pages, printed on writing paper, ruled and bound, and the price is $3.00. We will club it and the Weekly BEE JOURNAL for a year for $4.00. If you have already sent us $2.00 for the Weekly BEE JOURNAL for a year, we will send the Book for another $2,00, making $4.00 in all. If you want it sent by mail, add 20 cents for postage.

☞ For two subscribers for the Weekly BEE JOURNAL (or 8 for the Monthly) for one year, we will present a Pocket Dictionary, and send it by mail, postpaid.

☞ Our rates for two or more copies of the book, "Bees and Honey," may be found on the Book List on the second page of this paper. Also wholesale rates on all books where they are purchased "to sell again."

Advertisements.

FOR MOCKING BIRDS, TEXAS RED BIRDS,
Rose-Breast Grosbeaks and German Canaries at reasonable prices, address on postal card,
W. D. BALL, Columbia City, Whitley County, Ind.
16A2t

BAILEY Swarm Catcher.—Send stamp for circular. J. W. BAILEY, Ripon, Wis.
17D3t

My 17th Annual Price-List of Italian, Cyprian and Holy-Land Bees Queens and Nuclei colonies (a specialty); also Supplies—will be sent to all who send their names and addresses. **H. H. BROWN,**
17Dtf Light Street, Columbia County, Pa.

PLEASANT VALLEY APIARY!

Pure Albino and Golden

ITALIAN QUEENS!

Untested, after June 1st	$1 00
" per ½ doz	5 00
Tested, progeny 3-banded	2 00
" selected, young, large and light-colored	3 00
Full colonies in Langstroth or Simplicity Hives	8 00
Nuclei (no Queens) 2-frame, $2.25; 3-frame..	3 00
Celebrated Poplar Sections, per 1,000	5 50

Sample mailed free of the handsomest and best Section in the world. All orders filled promptly and satisfaction guaranteed. The above strains are bred in separate apiaries. Address
E. L. WESTCOTT,
17A1t FAIR HAVEN, Rutland Co., VT.

100 Colonies of Choice **ITALIAN BEES FOR SALE.** Send for Price-List. Address,
W. J. DAVIS, (Box 91)
14A9t Youngsville, Warren County, Pa.

I. X. L. EXTRACTORS!
For L. frame, $7 ; for larger frames, $8. Excelsior Cold Blast Smokers, post-paid, $1. Circulars free. Address all orders to
14A7t **W. C. R. KEMP,** ORLEANS, IND.

ALFRED H. NEWMAN,
Dealer in all kinds of
APIARIAN SUPPLIES,
AND
HONEY AND BEESWAX,
923 West Madison Street,
CHICAGO, ILL.

MY ILLUSTRATED CATALOGUE
sent FREE upon application.

BEESWAX.
I pay **26c.** per pound delivered here, for yellow Beeswax. To avoid mistakes, the shipper's name should always be on each package.

MY BUILDING
has been enlarged by adding two stories, in order to accommodate my increasing business. My facilities are now ample for a large trade.
ALFRED H. NEWMAN,
923 West Madison St., CHICAGO, ILL.

ITALIAN BEES and QUEENS FOR SALE!
For terms, address C. WEEKS, Clifton, Tenn.
17A4t

CALVES and **COWS** prevented from sucking each other, also **SELF-SUCKING,** by **Rice's Patent Wenner.** Used by all Stock Raisers. Prices by mail, post-paid: For Calves till 1 year old, 55c; till 2 years old, 80c; older, $1.12. Circulars free. Agents wanted.
H. C. RICE, Farmington, Conn.
17A1t 5B1t

A $5.00 BOOK FOR $2.50.

MOORE'S UNIVERSAL ASSISTANT
And Complete Mechanic
Enlarged Edition — contains over **1,000,000** Industrial Facts, Calculations, Processes, Trade Secrets, Legal Items, Business Forms, etc., of vast utility to every Mechanic, Farmer and Business Man. The work contains **1,016** pages — is a veritable Treasury of Useful Knowledge, and worth its weight in gold to any Mechanic, Business Man or Farmer. By mail, in fine cloth, $2.50.
Address, **THOS. G. NEWMAN,**
925 West Madison Street, CHICAGO, ILL.

Bee-Keepers and Dealers!
WE manufacture **everything** needed in the apiary. A large stock of White Poplar Sections now ready to ship. Send for special prices before placing orders elsewhere. Sample section 2 cts. Catalogue free.
APIARIAN SUPPLY CO.,
WILTON JUNCTION, IOWA.

Bee-Keepers' Badges at Fairs.
We have some **ELEGANT RIBBON BADGES,** having a rosette and gold Bee, for bee-keepers' use at Fairs, Conventions, etc. Price 50 cents each, by mail, postpaid.
Address, **THOMAS G. NEWMAN,**
925 West Madison St., CHICAGO, ILL.

Land-Owners, Attention!
All persons who have lost Real Estate in Iowa, by reason of TAX OR JUDICIAL SALES, are invited to correspond with **RICKEL & BULL,** Attorneys at Law, 41 First Ave., **Cedar Rapids, Iowa,** and they will learn something to their advantage.

65 Engravings.
THE HORSE,
BY B. J. KENDALL, M. D.

A TREATISE giving an index of diseases, and the symptoms ; cause and treatment of each, a table giving all the principal drugs used for the horse, with the ordinary dose, effects and antidote when a poison ; a table with an engraving of the horse's teeth at different ages, with rules for telling the age of the horse ; a valuable collection of recipes, and much valuable information.

Price 25 cents.—Sent on receipt of price, by
THOMAS G. NEWMAN,
925 West Madison Street, - CHICAGO, ILL.

BEES **FOR SALE**—**50** colonies in Langstroth Frames. Price, from $4 to $6 per colony.
17A3t **F. WILCOX, Mauston, Wis.**

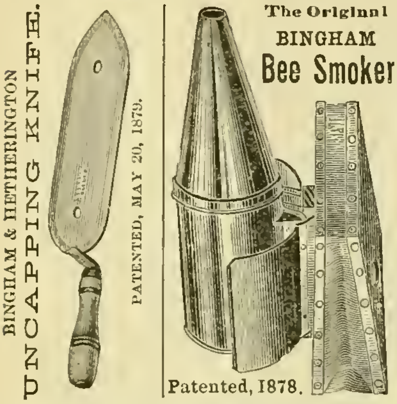
DUNHAM AND VANDERVORT FOUNDATION.
WE have bought a large stock of **Choice Yellow Beeswax,** and can furnish Dunham Comb Foundation for brood comb for **45c.** per l Thin Dunham for Sections, **50c.** per lb. Extra thin Vandervort, 10 to 12 square feet to the lb., **55c.** per lb. **Send for prices for 25 lbs. or more.** Will work up wax into Foundation for **10, 15** and **20c.** per pound.
F. W. HOLMES,
9D9t COOPERSVILLE, Ottawa Co., MICH.

BINGHAM SMOKERS.
I can sell the above Smokers at MANUFACTURERS' PRICES, by mail or express, at wholesale or retail. All the latest improvements, including THE CONQUEROR, and THE DOCTOR.
Send for my 32-page Illustrated Catalogue of Bee-Keepers' Supplies of every description.
ALFRED H. NEWMAN,
923 W. Madison, CHICAGO ILL,

DOOLITTLE.—For prices of his QUEENS see page 205 of BEE JOURNAL, or send for Circular. G. M. DOOLITTLE, Borodino, N. Y.
11E15t

Bees for Sale Full colonies Italians in Simplicity HIVES (L.) frame, in May, $10; June, $9. Hybrids, $1 less. Satisfaction guaranteed. DR. JOHN S. GATES,
14A6t Wilkinsonville, Worcester Co, Mass.

VALUABLE ORIGINAL PATENTS.



Prof. Cook, in his valuable Manual of the Apiary, states that "Mr. Bingham was the first to improve the old Quinby smoker by establishing a direct draft." Five years of persistent effort has demonstrated that no one but Bingham has been able to improve a Bingham smoker. Hundreds of Bingham smokers have been in use five years, and are yet in working order. They burn lots of blocks and chips and stuff, and make lots of smoke and comfort, and have no dampers or match-box attachments, as they never go out or fail to blow smoke up or down or sideways, much or little, swift or slow, just as you please, any or all the time; top up or down, they always go!

Bee-keepers will save money and vexation by buying genuine Bingham smokers and Bingham & Hetherington Uncapping-Knives first. We neither make nor handle any other supplies; but of these we are the original inventors, and only legal makers, and have had over 45,000 in use from one to five years, and receiving but one letter of complaint.

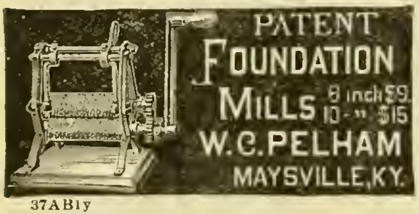
With European and American orders already received for over 3,000, there is evidence that 1885 with us is not likely to be an idle one. Also that such goods as we make have met the advanced wants of the most advanced bee-keepers in Europe and America.

Prices, by mail, post-paid.

Doctor smoker (wide shield)	3½ inch	..	$2 00
Conqueror smoker (wide shield)	3 "	..	1 75
Large smoker (wide shield)	2½ "	..	1 50
Extra smoker (wide shield)	2 "	..	1 25
Plain smoker	2 "	..	1 00
Little Wonder smoker	1¾ "	..	65
Bingham & Hetherington Honey Knife, 2 inch			1 15

TO SELL AGAIN, apply for dozen or half-dozen rates. Address,

BINGHAM & HETHERINGTON,
6A2Btf **ABRONIA, MICH.**


PATENT FOUNDATION MILLS 8 inch $9. 10 " $15
W. C. PELHAM
MAYSVILLE, KY.

37AB1y

PURE PHENOL I can furnish Pure Phenol for the cure of **FOUL BROOD**, as described by Mr. Frank Cheshire, of London, England. As it is a liquid, it can be sent only by express. Price, 25 cents per ounce, delivered at the express office in Chicago.

ALFRED H. NEWMAN,
923 West Madison Street, - CHICAGO, ILL.

60 Colonies of BEES FOR SALE.

For particulars, call upon, or address,
A. L. EDWARDS, SKANEATELES, N. Y.
14A8t 5B1t

Dadant's Foundation Factory, wholesale and retail. See Advertisement in another column.

SOMETHING NEW!

THE **Best-Made**, handiest and cheapest combination,

Summer and Winter Hive

in the market. Send for Catalogue of general **APIARIAN SUPPLIES**. The best white poplar **SECTIONS** and pure yellow beeswax. **COMB FOUNDATION** a specialty.

Full Colonies, Nuclei Colonies and

QUEENS for SALE.

Be sure to send for 25th Annual Price List, before making your purchases for 1885.

Address **WM. W. CARY, Jr.**
COLERAINE, MASS.
3Dtf Successor to Wm. W. Cary & Son.

Headquarters in the West
FOR APIARIAN SUPPLIES!

Of every description. Special attention given to the **V-groove Section.** Send for our 1885 Price-List before purchasing elsewhere.

BRIGHT BROTHERS,
10D4t MAZEPPA, Wabasha Co., MINN.

QUEENS **Send for Price-List of** Italian & Holy-Land Queens for **1885.** BEES by the pound, nuclei and full colonies. **J. C. MISHLER,**
11D6t **Ligonier, Noble County, Ind.**

ITALIAN AND CYPRIAN BEES; tested and untested **QUEENS**, Honey Knives, Extractors, Cook's and Root's Bee-Books, Smokers and Bee-Keepers' Supplies furnished. Address,
OTTO KLEINOW (opp. Fort Wayne Gate)
13D2t 5B1t DETROIT, MICH.

FOR BEE-HIVES

And a general assortment of **Bee-Keepers' Supplies** send for circular to
51Dtf J. E. PRYOR, Dexter, Iowa.

BE SURE

To send a Postal Card for our Illustrated Catalogue of APIARIAN SUPPLIES before purchasing elsewhere. It contains Illustrations and descriptions of everything new and valuable needed in an apiary, at the lowest prices. Italian Queens and Bees. Parties intending to purchase Bees in lots of 10 colonies or more, are invited to correspond.

J. C. SAYLES,
1D15t 2B5t HARTFORD, WIS.

6 SYRIAN QUEENS, $6
WARRANTED
PURELY MATED for

Single Queen, $1.25. **Tested Queens**, $3.00 each. **Italian** Queens at the same prices. 4 L-frame Nuclei, with Tested Queen, $5.00.

10D4t **I. R. GOOD, Sparta, Tenn.**

Bee-Keepers' Supplies.

We have added to our Large Factory a Special Department for the

Manufacturing of Bee-Hives,
AND
White Poplar Dovetailed SECTIONS.
Also, One and Two-piece

☞ All Orders will be filled promptly at the

LOWEST FIGURES,

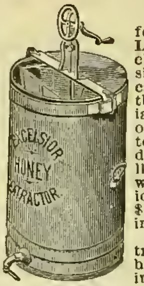
Send Stamp for Catalogue and Samples.

The H. F. MOELLER M'f'g Co.
1A26t DAVENPORT, IOWA.

SEND FOR IT.

We have just issued a new **Circular** that will interest any bee-keeper. Send your name on a postal card for it.
15Dtf HENRY ALLEY, Wenham, Mass.

EXCELSIOR HONEY EXTRACTORS



In answer to frequent inquiries for Extractors carrying 3 and 4 Langstroth frames, I have concluded to adopt these two new sizes. The 3 frame basket is in a can of the same size and style as the 2 frame. The 4 frame basket is in the larger can, with the cone or metal standard for the basket to revolve upon, leaving room underneath the basket for 75 or 80 lbs. of honey. It will be complete, with covers, and in every way identical, except in size, with the $16.00 Extractor, 13x20, which is intended for any size of frame.

Excepting with the $8.00 Extractors, all the different styles have strainers over the canal leading to the honey gate, and movable sides in the Comb Baskets. The $8.00 and $10.00 Extractors have no covers.

For 2 American frames,	13x13 inches			$8 00
For 2 Langstroth	"	10x18	"	8 00
For 3 "	"	10x18	"	10 00
For 4 "	"	10x18	"	14 00
For 2 frames of any size,		13x20	"	12 00
For 3 "	"	13x20	"	12 00
For 4 "	"	13x20	"	16 00

ALFRED H. NEWMAN,
923 West Madison St., CHICAGO, ILL.

40 Hidden Name and Embossed **CARDS** and this Perfumed Satchet for 12c. Samples, 4c. CLINTON & CO., North Haven, Conn.

☞ *We have seen cards from many firms, but none as pretty as those from Clinton & Co.*

11A10t

40 Embossed and Hidden Name Cards, Hand holding Flowers, &c., Game of Fortune and Present, 10c., 11 packs, Pearl Ring and Handkerchief, ☞ BLAKESLEE & CO., North Haven, Ct.

8D6t

40 **Hidden Name, Embossed** and **New Chromo Cards,** name in new type, **on Elegant 48 page Gilt bound Floral Autograph Album with** quotations, 12 page Illustrated Premium and Price List and Agent's Canvassing Outfit, all for 15 cts. SNOW & CO., Meriden, Conn.

7D6t

CARDS & KNIFE FREE!

50 different designs **Birds, Swiss Floral, Ivy Wreath, Gold Panel, Sentiment. Oval Embossed, Summer, Winter, Moonlight & Marine scenes,** all in beautiful colors on superfine enameled board

with your name in fancy type 10c. 11 pks and this beautiful Pearl Handle 4-bladed Knife (**for lady or gent**) $1.00 By getting 10 of your friends to send with you, you obtain an elegant knife and a lovely pack of cards FREE.
CAXTON PRINTING CO., Wallingford, Conn.
7D6t

FREE! FREE! **Solid Gold and Silver Watches, Chains, Rings, and 100** other **useful** articles **absolutely Free! 50 Elegant Gold Leaf Embossed and Souvenir Cards** with your **name** in New **script** Type, **10c., 2 packs** and **8 Elegant French Dolls** with **wardrobe of 32** pieces, **20c 8 packs** and this beautiful **Rolled Gold Ring, 30c.** Our styles of **Imported, Satin Fringe** and **Real Silk Florals are unequaled. Full instructions** how to **obtain** all the above **articles free,** also a **full line of samples free with every order. We want Agents,** and offer **Gold to those who seek it. Agents make $5.00** per day handling **our goods.** Send **at once; don't miss** this opportunity as this **offer may not be repeated. Address WEST HAVEN MANUFACTURING WORKS, West Haven, Conn.**
7D6t

50 **LATEST STYLE FLORAL BEAUTIES,** Motto, Landscape and Satin Cards with your name on, also 1 Perfume Sachet, 1 sheeet of Embossed Pictures, 1 set of Agent's Samples, Premium List, &c., all for **10c.**; 5 packs, 6 Perfume Sachets, 6 sheets of Embossed Pictures, Agent's Outfit and a **Lovely Rolled Gold Finger Ring for only 50 cents. FRANKLIN PRINTING CO., New Haven, Conn.**
11D4t

THE BRITISH BEE JOURNAL
AND BEE-KEEPER'S ADVISER.

The British Bee Journal is published SEMI-MONTHLY, at Seven Shillings per annum, and contains the best practical information for the time being, showing what to do, and when and how to do it. **Rev. H. R. PEEL, Editor.**
LONDON, ENGLAND.

The British Bee Journal and our Weekly for $3.50; with our Monthly, $2.00 a year.

Dadant's Foundation Factory, wholesale and retail. See Advertisement in another column.

WEEKLY EDITION
OF THE
AMERICAN
ESTABLISHED IN 1861
OLDEST BEE PAPER IN AMERICA
BEE JOURNAL
PUBLISHED BY
THOMAS G. NEWMAN,
EDITOR AND PROPRIETOR,
925 WEST MADISON-STREET, CHICAGO, ILL.
Weekly, $2 a year ; Monthly, 50 cents.

Vol. XXI. May 6, 1885. No. 18.

APICULTURAL NEWS ITEMS.

WISE AND OTHERWISE.

Our friends sometimes do us more damage than our enemies.

To give away a copy of "Honey as Food and Medicine" to every one who buys a package of honey, will sell almost any quantity of it.

Sagacious men do not become discouraged at small losses, but prepare their business for an increase on more systematic management.

Mr. F. Cheshire delivered a lecture under the auspices of the "British Institute of Agriculture," on April 13, 1885, at the Theatre in South Kensington, London, on "Honey—its Production and Storage."

Mr. James B. Mason, Mechanic Falls, Maine, has sent us his 48-page Catalogue of Bee-Keepers' Supplies. Though it is, perhaps, the last one to be issued this season, it is one of the nicest in its mechanical appearance.

Do not forget to give the flower beds attention this spring. They will amply repay the little trouble and care by their rich perfume and generous spread of gorgeousness. The bees will revel among them and grant generous returns.

The "British Honey Company," of London, is expected to be of great advantage to both the producers and consumers of honey in Britain, affording a ready market for the former, and protecting the latter from imposition, by the nefarious schemes of adulterators.

S. McLees, May, Mich., has sent us a reversible-frame device. It is very simple, consisting of a piece of bent wire in the center of each side-bar, which holds the frame in the hive, and the top and bottom-bars being alike, the frames can be inverted at the pleasure of the apiarist.

Two Honey Merchants—R. A. Burnett and Bond & Pearch—were "burned out" last Sunday night, and several firemen were crushed beneath the falling roof. As the stock of honey was light and kept in the basement and store, their losses on honey will be very light, in all probability.

Bee-Keeping; Plain and Practical: how to make it Pay, by Alfred Rusbridge. This is the title of a new English book of 144 pages, nicely printed, with an illuminated cover, and illustrated throughout. Mr. Rusbridge writes with the pen of a Master, detailing his practical advice in every chapter.

Short Articles are more acceptable than long ones, and do more effective work. A short article has twice the chance of prompt publication that a long one has, and ten times the chance of being read. What we all want is short, meaty articles. That is, say as much as possible in few words. Boil it down.

It is estimated that there are about 3,000,000 of colonies of bees in the United States, and the annual yield of honey is said to be about 120,000,000 of pounds; but last year's short crop did not exceed one-half that amount of honey. About one-third of the honey produced is "in the comb," and two-thirds of it is extracted.

The American Apiculturist for April has not yet made its appearance. Mr. Locke writes us that it is "delayed," and that the "cause will be explained soon." Perhaps the explanation may be found on page 286. Any bee-paper unconnected with the sale of bee-keepers' supplies will find an up-hill business, to say the least.

It is a trite remark that "He who stops to pick a flaw in others' knitting-work drops many stitches in his own." It is often better to let an error pass than to exercise undue ambition to criticise everything and every body. Remember that all we do, write or say may also be criticised, and all have need of the kind indulgence of friends to cover up many a fault.

In Germany, teachers employed by the Government travel from place to place, to give instructions in bee-culture, and in the villages an important organization is the bee-club, under the direction of which exhibitions are given and prizes are awarded. It is said, also, that the German rural schoolmaster is examined in bee-culture before he is given his diploma.

Mr. F. L. Dresser, of Detroit, Mich., sends us the following item, and enquires: What importance do you attach to it? "A mountain of pure honey, estimated to be 150 feet deep and 20 feet wide, is situated in the bosom of a noted peak in San Bernardino County, California." We published it some years ago, and asked the best apiarists of California if there was any truth in it; we were informed that it was pure fiction.

Hermaphrodite Bee.—Mr. F. Bechly, Searsboro, Iowa, has sent us a bee, with this remark: "What is it—a drone or a worker?" We sent it to Prof. Cook, and here is what he says about it: "The bee has the head, mouth-parts, eyes, antennæ, thorax, legs and wings of a worker-bee, and the abdomen and reproductive organs of a drone. So it is really a drone. This is one of the so-called hermaphrodites—not a real hermaphrodite, as such an animal has both sexes complete in the one body; whereas this insect is only functionally a drone, while it is in some respects like a worker. I have had a good many such specimens. Such abnormal development is often found among higher animals—even as high as sheep, cattle, etc."

A large demand for bees has sprung up on account of the losses in some localities. Those who have good stock and make it known by judicious advertising, now find ready sale for them. Though the losses are heavy, in some cases, energetic men do not become discouraged; disasters give them fresh nerve for new achievements, and more systematic work.

Don't Disturb the Bees.—The "Indiana Farmer" gives this caution: "With new honey and pollen coming in at a rapid rate, one is inclined to want to see what is going on inside the hive, and while a few examinations each week may not injure the bees, it is a better plan to give them time without too much interruption. The brood is easily chilled and the hives cool off very quickly while standing open. With the bees confined to what frames they can cover nicely, and with plenty of stores in close proximity to the brood-nest, but little now is to be done at this time except to wait until they grow stronger."

On Wintering, Hibernation, etc., Prof. A. J. Cook sends us the following items: "Mr. Thielmann, on page 265, gives us some very excellent points. I have noticed the constant motion of bees in a cluster in winter. The bees, though, when wintering best, are comparatively quiescent, and are by no means dormant, as are true hibernating animals. Disturb a hibernating animal and it only rolls up the tighter; disturb a bee, and it prepares to show fight, and will even take wing when it is very cold. In sooth, bees do not hibernate. Mr. T. asks how bees can be kept from breeding? Very easily—keep away all pollen. It looks now as if dampness and ventilation of our cellars were of little account, if we will only keep the temperature right, and see that the bees have enough and proper food."

A New Bee Plant is thus described by the "American Agriculturist" for May: "It would, perhaps, be more accurate to say, a new use for an old plant, as a correspondent of the "The Garden" (London, England) recommends the well-known and popular Siebold's Stone-crop (Sedum Sieboldii), as a plant to be grown for bee-pasture. We do not remember having seen any of the Sedums mentioned by our apiarists as of value in furnishing either pollen or honey. This Japanese Stone-crop is perfectly hardy, at least near New York, and is one of the most ornamental of the large genus to which it belongs. Its numerous stems, sometimes a foot long, are trailing, or almost prostrate. On this account it is often grown in hanging baskets, and in pots and pans; it is more frequently seen as a house-plant than a hardy one. It has several excellent qualities for a bee-plant, being easily propagated, and thriving in poor soil; it is also a capital rock-plant, and endures the longest drouths without apparent injury. Its clusters of purplish pink flowers are produced at the end of each stem in the autumn months, and last a long time. Its late blooming particularly commends it for apiarian use, as it comes at a season when honey-yielding flowers are scarce. The plant is kept by florists generally, and may be propagated by breaking up the plant and setting out the stems singly, or the stems may be cut into pieces two inches or less long, and rooted in the usual manner."

QUERIES

WITH

REPLIES by Prominent Apiarists.

Producing Honey in Sections.

Query, No. 58.—What is the best method of securing surplus honey in sections during the honey season?—J. B.

Prof. A. J. Cook answers as follows: "I am best pleased with 1-lb. sections in Heddon crates, with or without separators, as the skill of the apiarist warrants."

G. M. Doolittle says: "I use side-storing in connection with top-storing, believing that I secure enough better results by so doing, than by using only top-storing, to pay for all extra expense and have a margin for profit."

G. W. Demaree answers as follows: "Properly-made cases to hold the sections, and so arranged that they may be 'tiered up' at will; a good article of thin foundation filling each section, and doing everything at the right time, gives the best results in my locality."

Dr. G. L. Tinker replies thus: "I think that the nicest comb honey and the most of it is secured in section-cases operated by the 'tiering-up' system, without separators, and arranged for continuous passage-ways from the brood-combs to the sections."

Wide Frames or Cases?

Query, No. 59.—Which is preferable, wide frames or cases for holding sections? How should each be managed?—J. B.

G. M. Doolittle replies as follows: "So far, I prefer wide frames, even if many bee-keepers call them 'things of the past.'"

W. Z. Hutchinson replies thus: "If no separators are used, cases are preferable; if separators are wanted, wide frames, one tier of sections high, are preferred. The 'tiering-up' plan is advisable when either is used."

Prof. A. J. Cook remarks thus: "I do not think that any one who has used the crate or case would ever return to or be satisfied with wide frames."

James Heddon replies as follows: "As each system of surplusage possesses advantages that another does not, 'which is best' will depend upon the operator and locality, to a great extent."

G. W. Demaree replies thus: "First, cases to hold sections are much ahead of wide frames, so far as ease of manipulation is concerned, as the best modern hive is ahead of the old straw skep. Second, see answer to 58."

Dr. G. L. Tinker answers thus: "Section-cases are preferable under any circumstances, but they should not be too large if used without separators. A case 9 inches wide and 17 or 18 inches long is large enough for any colony where 'tiering-up' is practiced."

Prevention of Robbing.

Query, No. 60.—What is the best method to prevent bees from robbing? I have tried smoking them every 2 or 3 hours, but it does no good.—W. A.

Dr. G. L. Tinker remarks thus: "Cover the hive with a sheet, or carry it into a cellar."

G. M. Doolittle replies as follows: "Take every precaution against the possibility of robbing. If this is done, nothing but very weak colonies will be liable to be robbed. If from carelessness robbing is started, I put the robbed colony into the cellar for 3 or 4 days until the mania is past."

G. W. Demaree says: "Covering the hive with a wet sheet, and in bad cases piling some wet brush over the entrance to the hive, is the best remedy I know of. It has never failed to discourage the 'robbers.' Smoking is a disadvantage."

James Heddon answers as follows: "No, 'smoking' is of little avail. A bunch of wet hay at the entrance, and close contraction of the same, are both good, and prove efficient, if the robbing has not progressed too far; but when it has, carry the robbed colony into the cellar, and leave it until the habit is broken, and then return it just before the bees cease to fly. Keep its hive-entrance contracted to about ½ of an inch. It is also well to contract the brood-chamber to the capacity of the colony."

W. Z. Hutchinson replies thus: "Contract the entrance, cover it with dry hay or straw, and then put dampened straw over this."

Dadant & Son answer thus: "To keep a colony from robbing, move it from its stand and put the robbed colony in its place. Do not leave any honey exposed, or any weak colony with too much entrance-room and too much honey in the hive. When you manipulate your hives, if robbers are about, be prompt, and in closing the hive, throw a bunch of blue-grass over the entrance, keeping it there a couple of hours."

Prof. A. J. Cook remarks thus: "Always feed at nightfall; never spill any honey; in late autumn never work except under a bee-tent, and keep all colonies strong; then the robbing will never occur. If they get to robbing, close the hive-entrance to within ⅜ of an inch, and if that does not suffice, carry the luckless colony into the cellar—a thing that I have never had to do."

* * *

The Premium List of the County Fair at Burlington, Iowa, is received. It will be held Sept. 14-18, 1885. Seventy dollars in premiums are offered for bees and implements used in bee-keeping.

Convention Notices.

☞ The Bee-Keepers' Association of Central Illinois will meet at Bloomington, Ills., on July 15, 1885, at 10 a. m.
Wm. B. Lawrence, Sec.

☞ The Hancock County, Ohio, Bee-Keepers' Association will meet at 9 a. m., in Findlay, Ohio, at Mr. Bradnor's, on the Lima road, on May 16, 1885. S. H. Bolton, Sec.

☞ The Southern Wisconsin Bee-Keepers' Association will meet in the Court House, at Janesville, Wis., on Tuesday, May 12, 1885, at 10 a. m. John C. Lynch, Sec.

☞ The Progressive Bee-Keepers' Association of Western Illinois will meet in Bushnell, Ill., on Thursday, May 7, 1885. Let every bee-keeper who can, be present and enjoy the meeting. J. G. Norton, Sec.

☞ The Willamette Valley Bee-Keepers' Association will hold its second meeting at La Fayette, Oregon, on the third Tuesday in June, 1885. All who are interested are invited to attend. E. J. Hadley, Sec.

☞ The Mahoning Valley Bee-Keepers' Association, will hold its next meeting Newton Falls, Ohio, on Thursday, May 28, 1885. E. W. Turner, Sec.

☞ The Central Michigan Bee-Keepers' Association will hold its spring Convention at Lansing, Mich., in the State Capitol Building, on Tuesday, May 12, 1885, at 9 a. m.
E. N. Wood, Sec.

☞ The Texas State Bee-keepers' Association will be held on Thursday and Friday, May 7 and 8, 1885, at the apiary of Judge W. H. Andrews, at McKinney, Tex. All interested in the advancement of apiculture, are earnestly requested to be present and make this a memorable meeting of the Association.
W. R. Howard, Sec.

☞ The Northern Ohio Bee-Keepers' Association will hold their annual meeting in the Council Chamber, at Norwalk, O., on Saturday, May 9, 1885. Subjects of immediate practical value will be discussed. Officers will be elected for the ensuing year. No one engaged in the production of honey can afford to be absent. H. R. Boardman, Sec.

☞ The next annual meeting of the Keystone Bee-Keepers' Association will be held in the Court House in Scranton, Pa., at 10 a. m. and 1.30 p. m. on May 12, 1885. At the morning session, after the President's address, which will include a report as delegate to the Bee-Keepers' Congress at the World's Fair in Feb. last, the annual election of officers will take place. While the Association is but just commencing its third year, we congratulate ourselves in having a working membership of over 50; yet there remains much to be accomplished, and we trust that all who keep bees, whether for pleasure or profit, will attend this meeting.
Arthur A. Davis, Sec.

* * *

☞ To create Honey Markets in every village, town and city, wide-awake honey producers should get the Leaflets "Why Eat Honey" (only 50 cents per 100), or else the pamphlets on "Honey as Food and Medicine," and scatter them plentifully, and the result will be a DEMAND for all of their crops at remunerative prices. "Honey as Food and Medicine" are sold at the following prices:

Single copy, **5** cts.; per doz., **40** cts.; per hundred, **$2.50.** Five hundred will be sent postpaid for **$10.00**; or **1,000** for **$15,00.** On orders of **100** or more, we will print, if desired, on the cover-page, "Presented by," etc. (giving the name and address of the bee-keeper who scatters them).

CORRESPONDENCE

Explanatory.—The figures BEFORE the names indicate the number of years that the person has kept bees. Those AFTER, show the number of colonies the writer had in the previous spring and fall, or fall and spring, as the time of the year may require.

This mark ⊙ indicates that the apiarist is located near the centre of the State named: ♂ north of the centre; ♀ south; o+ east; +o west; and this ♂ northeast; ⌐o northwest; o⌐ southeast; and ♀ southwest of the centre of the State mentioned.

For the American Bee Journal.

Best Way to Make a Nucleus.

16—G. M. DOOLITTLE, (40—80).

On page 344 of the BEE JOURNAL for 1883, I told the readers how I had tried all the then known plans of making nuclei, none of which suited me on account of so many of the bees going back to the colony from which they were taken. Where an apiarist has two apiaries several miles apart, bees can be brought from the apiary farthest from home with which to form a nucleus, so as to be a success every time. But as all do not have such an apiary, and there is much trouble about the plan, to those who do have it is quite an object to have a plan by which a nucleus can be formed when and where the apiarist wishes. To accomplish this object, I studied out the plan of caging a frame of hatching brood, as given on the page above referred to, and, by putting a virgin queen two or three days old, into the cage, I had a plan that has worked much better than any that I had previously tried. However, in some cases this plan partially failed, as the bees in the hive in which the caged frame was placed would partially desert one side of the cage so some of the hatching brood would become chilled, while again some would worry and try to get out until at the end of five days a portion of the newly hatched bees would be dead upon lifting the frame from the hive, at the time of placing it where it was to stay.

At the same time that I was practicing the plan described on page 344 (1883), I was also trying another plan which was at first designed for the safe introduction of virgin queens, to do which I proceeded as follows: I made a box by taking two pieces of wood 6x6x¾ inches, and two other pieces 12x6x¼ inches, the latter being nailed to the former, which made a box 10½ inches long by 6 wide by 6 deep, without sides. I next got two pieces of wire-cloth 12 inches long by 6 inches wide, one of which was nailed permanently to one side of the box, while the other was left so it was removable at any time. In the top of the box was bored a large hole into which a large tin funnel (such as is used by those selling bees by the pound) could be inserted. Near one end I bored a ¾-inch hole through which I could put in a virgin queen as soon as the bees from a nucleus were shaken through the funnel into the box. The box was then placed in a dark cellar until night, when it was put over the combs of the nucleus from which the bees were shaken, when the removable side of the box was taken off and the bees allowed to return to their combs during the night.

In this way I thought to introduce and get a virgin queen to laying in two or three days after I had sold a laying queen from a nucleus, which, in turn, could be sold and another introduced in like manner, thus making it profitable to rear queens at the low price of $1 each. But I soon found that not more than one queen out of three thus put into the box would be accepted by the bees, while those which were accepted were so slow in getting fertilized (some requiring ten or more days), that I became disgusted and went back to the cell-plan.

In one of these experiments I took the bees from a full colony to see if I could succeed better, but they killed the virgin queen almost as soon as I put her into the cage. Just then I was called away, so I hastily placed them in the cellar and left them. When I returned towards night, I thought I would see if I could form a nucleus of them, by placing a frame of brood and one of honey in an empty hive and turning them upon it. Accordingly I rigged the hive as above. Before I had all completed it was nearly dark, so I felt sure that I could succeed, as no bees could get back home until morning. Before sunrise the next morning, I saw that these bees had not clustered on the brood at all, but had crawled all over the hive, many of them being outside from which place they were flying for home. Upon going to the hive from which they came, imagine my surprise to find that they were being treated as strangers, some even being killed, so that not one was allowed to enter the hive. Suffice it to say that all were lost and killed, but from it I learned one thing, which is, that bees confined in a small space with a different queen from their mother, whether dead or alive, would be disinherited if kept in such a space for eight or more hours.

Soon after this I had a queen sent me very unexpectedly, and as I did not value her very highly, I thought to form a nucleus with her, and resolved to try the caging of bees with her. After getting the bees into the cage, I feared to let her in with them, so I waited a couple of hours, at which time I found the bees in great agitation from knowing that they had no queen with them. I now let the queen run in through the small hole, when a more happy lot of bees was never seen. These bees were found compactly clustered in the top of the box the next morning, when they were hived on two frames of brood and soon built up into a colony. From all of the above I learned the following, which I believe to be the best known plan of forming nuclei:

Procure a box and funnel, as described above, and go to any hive that can spare from it, from a tea-cupful to a quart of bees, according to the size of the nucleus desired; take out a frame or frames having bees on the combs (be sure you do not get the queen), and place it on the outside of the hive. Give the frame several sharp knocks with a little stick, to cause the bees to fill themselves with honey, and when so filled shake as many bees down through the funnel into the box, as you wish in your nucleus. Take out the funnel and close the hole, when you will put the frame from which you shook the bees, back into the hive and close it. Now take the box of bees to the cellar, or a darkened, cool room, and leave them two or more hours, when you will give them (a laying queen) any poor queen you care little for, or a good one if you choose.

To put the queen in, put the box down suddenly, so that all the bees will fall to the bottom, when the queen is allowed to run in through the small hole. I generally form the nucleus about 1 p. m., and let the queen in at 3 p. m. Early the next morning, take a frame having a very little brood in it, and one with honey, and place in a hive where you wish the nucleus to stay, using a division-board to contract the size of the hive. Now, hive the little colony from the box the same as you would any swarm, and they will go to work immediately. In two or three days form another nucleus in the same way, and when you are ready for the queen, go to this last made nucleus and get this same queen to use for the next, which is to be made from the bees in the box, and in this way keep on forming nuclei as long as you wish them. In this way I made 3 queens form 60 nuclei last season. After the queen is taken away from the first formed nucleus, to form the second, the nucleus is to be treated the same as any queenless nucleus is treated, and when virgin queens are introduced there need not elapse more than a week before the nucleus will have a young laying queen.

There are three reasons for using a laying queen in forming the nucleus; the first of which is that the bees will always accept her and behave just as you wish them to; second, this queen will furnish all the eggs that the nucleus can care for during her short stay, so they are well supplied with young brood at the outset; and third, a laying queen can be taken from the nucleus sooner by the above plan, as where a virgin queen is used to form the nucleus, such queen is exceedingly slow about becoming fertilized. In conclusion I will say that I know the plan will work if followed as I have given directions, for I used it all last season and during the latter part of 1883.

Borodino,⊙ N. Y.

☞ The spring meeting of the Cortland Union Bee-Keepers' Association will be held in Cortland, N. Y., on May 12, 1885.

W. H. BEACH, Sec.

For the American Bee Journal.

The Use of Drone-Traps.

CHAS. DADANT & SON.

Mr. Alley, on page 214, seems to dismiss the subject of drone-traps, on discussion; we are willing to drop it also, but before doing so we wish to call the attention of the readers to some of his assertions.

He says: "Messrs. Dadant & Son could do with fewer men in their apiary if they used drone-traps." By turning to page 820 of the BEE JOURNAL for 1884, the readers will see that Mr. McDaniel has done the greater part of the work on some 450 colonies of bees in our apiaries last year; also on page 68 of the present volume, that one man can easily take care of 5 to 7 apiaries. What led Mr. Alley to think that we employ many men in our apiaries, is the expression "our men," which we used on page 165. Indeed, we have employed many men in our apiaries, but not many *at one time*, except during the extracting season.

Mr. Alley says that "a hive can be more easily and better ventilated when the trap is used." What do the readers say? He also says that drones reared in worker-cells are worthless. Our experience goes to prove that they are as useful as small males are with large females. He says that if our neighbor had used drone-traps, not one of our queens would have mated with his drones. Indeed; but if our neighbor had been intelligent enough to buy drone-traps, he would have just as well prevented the rearing of black drones, and then would have had no need of drone-traps. He says that foundation sagging makes drone-cells. It does, but sagging is caused usually by excess of heat, and plenty of ventilation will prevent this.

Mr. A. gives eight reasons to prove the usefulness of a drone-trap as a queen-trap to prevent swarming, among which he says that the apiarist can go from home with no fear of losing his bees. This is correct; but supposing a queen is caught in the trap in trying to swarm, how will she be released from the trap unless the apiarist looks at each trap every day? And yet Mr. Alley says that the trap needs no attention oftener than once a month. What do the readers say? And if young queens are reared in a colony that tries to swarm, and they try to go with the swarm, can they go through the drone-trap? If they can, then the swarm is lost if the apiarist is absent. If they cannot go through the drone-trap, how are the young queens to be fertilized unless the bee-keeper knows the day of their bridal flight and removes the drone-trap?

Those swarms that "decamp to the woods," as Mr. Alley says, "leaving the hive in which they have just been placed," are nearly always second-swarms that have a virgin queen, and she will either be unable to go and mate, on account of being stopped by the drone-trap, or else her small size will enable her to go through the drone-trap and escape with the swarm.

To sum up the drone-trap as a queen-trap: If the young virgin queens are stopped by the drone-trap, it prevents them from taking their bridal flight. If they are not stopped by the drone-trap, swarms with young queens cannot be controlled, by the drone-trap.

Hamilton,+o Ills.

For the American Bee Journal.

Wabash County, Ind., Convention.

The Wabash County Bee-Keepers' Association met in the Court House at Wabash, Ind., on April 11, 1885. The question, "How should colonies be examined, and how often?" was discussed as follows:

Mr. Maurer stated that he examined his bees once a week during the working-season, and thought that no harm came from frequent handling. He has racks on the sides of the hives on which to hang several of the frames, in order to give room to examine the other frames. He makes a thorough examination of each colony and notes down its condition. Mr. Miller thought that by proper attention and training, bee-keepers could tell the condition of the bees by simply passing in front of the hives and watching the movements of the bees. President Hess opens the hives whenever there appears to be any thing wrong, and applies the remedy as soon as possible. He does not disturb his bees at all during the winter. Mr. Zimmerman said that in large apiaries visited by him in Ohio, last fall, the bees were handled every few days. Mr. Whitlow does not handle his bees often unless he finds something wrong. He rakes out the dead bees once a week during the winter; otherwise he does not disturb them. Mr. Miller thought that colonies could be disturbed too often, especially during the best honey-flow. Mr. Brewer thinks that a practical bee-keeper can generally tell what condition his bees are in without opening the hives. If a colony is queenless, it will seldom be seen carrying in pollen, while those in good condition will be carrying it in lively. When he finds a colony that he thinks is queenless, he opens the hive, notes their condition, and gives them either a queen or unsealed brood. Mr. Lowery could tell by passing the hive, when a colony is troubled with moths. Mr. Martin thought that bees might be handled too much, but he did not regard several times a week too often. Mr. Singer said that if he found the bees running about on the alighting-board of the hive, he concluded that they were queenless; or if immatured bees appear at the entrance of the hive, there is chilled brood, or moths at work. He also read an essay on "Spring Management."

Mr. Cripe read an essay on "Apiculture." President Hess wanted to know how to feed artificial pollen in early spring. Mr. Brewer said that he feeds it on a board with cleats nailed around it to prevent the wind blowing the pollen off, inclining the board towards the south.

The following officers were elected for the ensuing year: President, Alex. Hess; Vice-President, Joel Brewer; Secretary, John J. Martin; Treasurer, H. C. Whitlow.

The reports of the mortality among bees during the past winter were next listened to as follows: Mr. Brewer said that he put into winter quarters 60 colonies, and now but 3 are living. Mr. Aaron Singer had 26 colonies, only one of which is alive. Mr. J. C. Zimmerman lost 30 out of 40 colonies. These, of course, were the heaviest losers, but others also reported a decrease. Mr. Whitlow was the exception; he put 26 colonies into winter quarters and lost but one. To sum the whole matter up, 318 colonies were put into winter quarters by those present, and only 113 are now alive.

In the discussion under the head of "Miscellaneous," at the afternoon session, reasons were given for the great losses sustained. The President attributed the trouble to the want of proper ventilation of the hives and long-continued cold weather. Messrs. Brewer and Singer thought that their colonies were greatly decreased in numbers by the close proximity of cider-presses, in which thousands of their bees were destroyed, thus sending the colonies into winter quarters too weak to withstand the severe and protracted winter weather. After a very general interchange of opinions, the majority did not seem satisfied that the true reason had been found, and proposed to continue their investigations; but nearly all know that their bees are gone, and they are casting about for ways and means to prevent a like catastrophe in the future.

At the request of Mr. Cripe, it was decided to hold the next meeting at North Manchester, on Saturday, Oct. 10, 1885. J. J. MARTIN, *Sec.*

For the American Bee Journal.

Advantages of Reversing Combs.

W. H. STEWART.

Of late the reversing of combs has been treated of quite extensively in the BEE JOURNAL, and it appears that the most of the thought and experiment has been confined to the reversing of brood-combs and sections; while little or nothing has been written on the advantages that may be gained by reversing the combs kept in the brood-chamber and used for extracting.

One advantage to be gained by reversing the brood-combs, is getting the combs built solid to the bottom-bar of the frame. This may be done without reversing the comb, by simply leaving off the bottom-bar for the first year; the bees will then build the combs down within bee-space of the bottom-board, and finish off the lower edges of the combs with a thick, bold round, but they will not attach them to the bottom-board; and as the frames are calculated for a bottom-bar to be nailed on the lower ends of the end-bars, a double bee-space is found between the end-bars and the bottom-board. Thus, as the combs are built down to within bee-space of the bottom-board, they are found to extend the depth of one bee-space below the end-bars; then, if it be desired to use a bottom-bar, a straight edge may be laid even with the lower ends of the bottom-bars, and with a thin, sharp knife the combs can be trimmed so as to give them a square (lower) edge that will fit even and snug to the bottom-bar, as it is nailed on, and the bees will make all fast in a few hours. Thus the combs are in their natural position, and the frames completely filled.

Another advantage which is gained by reversing brood-combs, is clearing them of honey stores that is generally found in the upper part of such combs, and in the way of the queen when she desires to extend the area of brood. But this may be accomplished as effectually by uncapping such stores, and at the same time trimming the combs down to within brood-comb thickness (say ⅞ of an inch), and placing the combs within ⅜ of an inch of each other, on returning them to their places in the hive. Give bees room for storage above, and they will forthwith carry the honey from the lower to the upper set of combs, and the queen will deposit eggs in the thus emptied cells. If these combs are to ever remain in the brood-chamber, I can see no good reason why they should be reversed; but if they are to be in the brood-chamber for extracting combs, then they should be reversible.

This brings us to the use, or benefit, of reversing combs that are used in the second and third stories for extracting. I would say that by having such combs reversible, we may do without that nuisance—a queen excluder.

Instinct directs the bee to deposit honey stores in the upper portion of the comb, and to do the work of breeding in the lower part; in order to occupy as nearly the entire space above as possible, the cells in the upper part of the combs are extended to a greater depth than are the lower brood-cells; it appears that combs that are more than ⅞ of an inch thick are unfit for worker-brood, and that the queen will not attempt to fill a comb with eggs that is 1¼ or 1½ inches thick.

In building combs in the upper story, it is also found that the bees are inclined to build the cells deeper above, and more shallow below; thus, as the queen, in the height of the breeding season, seeks more room, she reaches the lower edges of the upper combs having cells of proper depth for brood, deposits eggs in those cells as they are returned from the extractor, and when we go again for another load of honey, on the next round for extracting, we are disgusted to find the lower portion of our surplus combs full of eggs and young brood. Although it may be desirable to have breeding go briskly on at such times, if it can be confined to its proper compartment, yet such breeding in the surplus combs is a nuisance; and thus the invention of that failure—the queen-excluder.

Since I have used the extractor, I have had much trouble with this breeding in the second, and even the third stories of the hive. During the summers of 1882 and 1883, I adopted the plan of giving the weakest colonies all combs that were thus filled with brood; but in doing so, I was deprived of the use of many choice combs for extracting, which I was only able to replace by beginning anew with frames filled with foundation, and this, of course, was a drawback to honey-gathering. This work, it is true, was a great help to the weak colonies for the one season, but when the next season's breeding came on, then ⅔, or perhaps ¾ of such combs were found with cells too deep for breeding, and had to be taken away or cut down, and altogether there was a loss.

In the spring of 1884 I made arrangements to reverse all surplus combs as soon as I found that the queen had begun to deposit eggs in their lower edges. By thus reversing all the combs in the surplus apartment, and driving all the bees down upon the lower set of combs, I was sure that the queen was below; I also found that if she came above again, she did not pass the thick portion of the comb to deposit more eggs in the thin part of the comb that was now near the top-bar, and what little capped brood there was in the comb when reversed, would hatch; then the thin portion of the combs was immediately built out by the bees for storage comb; and before the extracting season was over, I was taking off combs that were 2 inches, and some of them 2½ thick from top to bottom, and I had no further trouble with brood in extracting-combs.

This reversing, of course, gave the cells a downward inclination, but I could see no difference in the rapidity or success of depositing honey in them: yet I think that hereafter I will turn them all back again as fast as I find them so thick that the queen cannot use them for breeding.

Orion, 9 Wis.

For the American Bee Journal.

Ridicule is Not Argument.

WM. F. CLARKE.

The chief object of Mr. McNeill's article on page 233, appears to be to make me look ridiculous; and in all kindness, let me ask, supposing that object to be accomplished, wherein will the interests of apiculture be advanced thereby? I am sorry that the article found its way into print, but since it has, I must claim the right of reply, though I dislike to be compelled to write so much about myself.

In the first place, Mr. McNeill seems to be elated at having succeeded, as he thinks, in holding up a mirror before me, and showing me that I am a consummate dolt. This is the style of some people; if you give them an inch in the way of candid acknowledgement, they will take an ell of credit to themselves, and try to hold you up as a laughing-stock. I have some self-respect left, though I did own that I wrote rather impulsively when the theory of hibernation first impressed itself upon my mind.

There was no need of all that long homily about my haste in announcing my discovery, becoming a "blind leader of the blind," "slopping over," etc., for what did I do? Advise all bee-keepers to adopt my theory? No. I did but modestly ask every fellow bee-keeper to try one colony according to my method. I simply took all into my confidence, and requested them to aid me in testing a theory which I thought, and still think, had wrapped up in it the secret of successful wintering.

I am accused of having an "ambition to shine among the lights of the bee-keeping world." Well, is that a crime? This ambition, so far as I am concerned, was fully gratified long before Mr. McNeill was heard of as a bee-keeper, and at a time when the lights of the bee-keeping world were more scarce than they are now, and consequently the light they shed was more valuable. This is, perhaps, as good a place as any to notice what Mr. McNeill says at the close of his article about "homage," "anxiety to be crowned," "wearing laurels worthily," and so on. Let me just say, that inasmuch as the bee-keeping world exhausted all its honors on me long ago, there are no more to crave. I cannot attain any higher distinction than that of having been elected President of the North American Bee-Keepers' Association next in order to Langstroth and Quinby, and afterwards elected to a second term. Mr. McNeill "would not pluck one leaf from laurels," etc. Well, he cannot; that is one satisfaction.

There is no ground for ridiculing me on account of the latitude which I have allowed myself in defining hibernation. It is a latitude given by the facts of natural science, and I have already produced adequate authority for the position that hibernation is a matter of degrees. But Mr. McNeill will not allow me to make my own explanations. I am not permitted to speak for myself. He admits that, according to my definitions, there is "no controversy between us," and then proceeds to substitute his definitions for mine, in order to make me out "very illogical!" Who could not be made to appear "very illogical" according to his method? There is no fairness in such tactics.

The climax of Mr. McNeill's attempts to make me look ridiculous is reached in connection with his reference to Webster's definition of the word hibernation. After quoting this, he goes on to say, "If this be the real, scientific definition of the word, Mr. Clarke has truly made a wonderful discovery." Well, it is not the "real, scientific meaning of the word," and I have stated this in the BEE JOURNAL more than once, as Mr. McNeill must be very well aware. There is a popular and a scientific use of the term. Webster gives the popular use of it. Months ago, I quoted from one of the highest authorities in the world, the scientific meaning as follows: "Hibernation is the term employed by naturalists to denote the peculiar state of torpor in which many animals which inhabit cold or temperate climates pass the winter." And now I am represented as having "announced to the world as one of the most important discoveries in apiculture, that bees actually pass the winter in close quarters, or in seclusion!" I never did anything of the kind. What I did was this: I called attention to a fact or principle in bee-life, not unknown, but practically overlooked, in our theories of wintering. I said, there is a state known to the scientific world as "hibernation"—which has degrees, from a kind of semi-torpor to a very profound torpor—into which, or something like it, bees relapse in winter when the circumstances are favorable. In this condition their consumption of honey is very trifling, and if we can find out how to get them into it, we shall secure their wintering at the smallest possible cost, and without any detriment whatever. Let us try experiments, each with a single colony, to ascertain how to induce this desirable condition.

This is "the head and front of my offending." I might have been a little too sanguine and enthusiastic, but what I have done to deserve the contemptuous treatment Mr. McNeill has given me, I am at a loss to understand.

Speedside, Ont.

[Now, let the foregoing article end this unpleasant and unprofitable controversy. Each disputant has evidently concluded that the language used meant more than the writer designed, and therefore, misinterpreted the INTENTION of the other.

Letters from our subscribers demonstrate that they are TIRED of discussions which are but a "war of words," spiced with "sharp-cutting thrusts," and "offensive personalities." Earnest students of apiculture have no relish for such articles; and as we have concluded not to disgust them any further in that line, we have "dumped" a hundred of such articles into the waste basket, in order to devote the space of the BEE JOURNAL to more profitable reading matter. Correspondents will please "take due notice, and govern themselves accordingly."—ED.]

For the American Bee Journal.

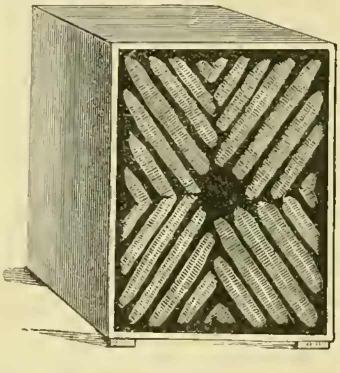
Transverse Passages in Hives.

A. WEBSTER.

How shall we arrange the combs in hives to secure cross-passages and free interior communications from comb to comb and from the centre to all points in the hive? I think that this is a question of prime importance, and that a right solution of it will advance bee-keeping as much as any improvement of the past; especially in climates like ours, where, at times, the extremes and sudden changes of temperature make the freest interior communications, and the best facilities for changing the size or location of the bee-cluster, and moving the stores, a necessity. Yet, what point has been so generally overlooked or neglected? Most of those who have attempted to provide for this want, have unfortunately resorted to such unnatural and ineffectual devices as to disgust the bees and their keepers, with "winter-passages."

Most hives are divided into sections by parallel curtains of comb extending nearly through their length and depth, which bee-keepers boastingly say are "as perfect and regular as boards," with no means of cross-communication but by passing over, under, or around the frames, which, in cold weather, is utterly impracticable. The results are well known to be the loss of thousands of colonies every winter, and the injurious depletion of nearly all. Such hives are, in this respect, like dwelling houses with no facilities for passing from one adjoining room to the others but by climbing over the partitions through the attic, diving under them through the cellar, or passing around them *via* the outside doors. The improved hives are in this respect even worse than the old box and straw hives, where the bees, in building their combs "at random," often provided partial inter-communications, and occasionally laid out their interior passages in a manner worthy of the founders of cities and the admiration of mathematicians. I remember a few such hives, and have heard of others, all of which were remarkably successful as far as I know their history.

As will be seen in the illustration, the combs run from the corners toward the centre of the hive in transverse directions, and the inner end of each comb meets the side of a transverse one at right angles, with a passage between, that the bees will always keep clear. The harmony of this arrangement, and its perfections and advantages are so obvious that it only remains for me to consider the best means of securing it in all our hives.



In box-hives this can easily be done by fastening starters of comb or foundation to the underside of the top-board wherever we wish combs to be built. Sheets of wired foundation used in the same way would doubtless be a better but more costly and troublesome method. Such box-hives I am confident could be used in an elevated Northern location, like my own, far more successfully than any of the popular hives now in use; and if my bees and hives were destroyed by fire, flood, or other accident, and I were to begin bee-keeping anew, I would adopt such box-hives rather than the others. This is a candid statement of my preference after nearly 30 years of successful bee-keeping, and using movable-frame hives longer than any other man in the State, that I know of.

The adaptation of movable-frames to this arrangement of combs and passages, at first seemed environed with insurmountable difficulties that long deterred me from attempting it; but I am now happy to be able to say that these difficulties, like many others that beset the path of progress, have proved to be more apparent than real, and the result of wrong ideas and false education on our part, and not inherent in the problem to be solved. I find these frames a little more expensive to make than the Langstroth, equally convenient to manipulate, and besides the advantages of transverse passages, and the shortest direct communication of the combs of the hive with each other and with the centre, they give the largest possible range of brood-comb in hives of compact form radiating directly from the centre, and they enable us to omit outside passages which are unnecessary. They may be used either as hanging or standing frames, and be arranged for either side or top storing, or both combined. For side-storing the surplus receptacles may be placed in direct contact with the ends of the frames on all sides of the hive. It is probable that when arranged in this way the hive will be nearer a non-swarmer when run for comb honey than any other; and by using a brood-nest of a size suited to the capacity of the queen, it will come nearer to realizing the ideal of those bee-keepers who want nearly all the honey stored in the surplus receptacles.

But as concentration of forces is an important principle in war and work, and often the key to success, it is probable that where only short or moderate flows of nectar are expected, or a moderate increase of colonies is desired, a simple top-storing hive will be the best. It may be worked on the "tiering-up" system if needful, and, perhaps, the cases may sometimes be advantageously placed beneath the frames for comb-building, before they are put above to be filled and finished.

South Northfield,⊙ Vt.

For the American Bee Journal.

The Pollen Theory.

J. F. LATHAM, (20—23).

I may err as to what may be termed the direct and indirect causes; but I believe the prompting cause to be the direct cause, and its consequent effects the manifest results of its workings. Pollen is an inanimate substance—"It begetteth not, neither is it begotten"—a substance useful to insects which derive their sustenance from the flowers, and like all other substances that pertain to a corresponding use in the economy of animate life, the results of its use may be beneficial or detrimental. Whether the consumption of pollen by bees in winter confinement be productive of good or evil, the manifest results are simply the consequents of the acts of the agents which prompt the demand for its use.

According to Mr. Heddon's supposition, when pollen is eaten by bees breeding in confinement, if the colony so using it is affected with diarrhea, the act of brood-rearing, not the pollen, might prove the prime cause of the disease. Here the pollen theory assumes a new phase; for should Mr. Heddon prove correct in his conjecture (and I think he is correct), how is he to decide a case where a colony breeding in confinement is found affected with diarrhea in conditions favorable to good health? Should breeding in confinement prove to be the only cause, pollen is "out of the game;" were pollen the prime cause, "pollen must play alone." Two different prime causes will not produce one like effect; not even by Mr. Heddon's own method of computation.

If pollen is eaten by bees to produce chyme with which to nurture their brood, as Mr. Doolittle suggests, that portion which is not regurgitated as food for the larvæ, or assimilated to sustain their own bodies, must remain in the intestines until it is ejected naturally, and when the retention of the feces is unnatural, whether in bees or animals, the fact that such retention induces disease has been so permanently established that it will not admit of controversy. Now, when the inert portions of sound food—those portions not susceptible to the action of the digestive and assimilating organs of the bee—remain in the intestines in a decomposed condition until diarrhea results from an aggravated organism, the cause must exist in the conditions prompting its use, the act of consuming, and the conditions preventing its healthy discharge. The working agents must be the actual cause; their instruments, auxiliaries. "Were a man killed by a lion," it would not be necessary to go behind the lion to find the prime cause of the man's death, as the evidence of the effects of the lion's acts on the man's body, would be conclusive.

A colony of bees in winter confinement requires food consonant to domiciliary and climatic conditions. If those conditions stimulate an appetite for pollen, they will use it as long as the call continues, and if brood-rearing be one of the acts of a prompting cause, they will use it until stopped by satiety, or a reduction in the temperature of the brood-nest; the last I have tried, and found it to be effectual when outside circumstances permitted the change to be made insensibly. A sudden change will make bad matters worse.

I think that Mr. Heddon is right in admitting pollen to be "no more the cause of bee-diarrhea than whisky is of a whisky drunk." A very sensible admission! ! — but Prompting Thirst seems to trouble him to such a degree that he endows *him* with animation. The source of the trouble appears to exist in the unfortunate construction of his hypothesis—misapprehension. Were man a creature of circumstances—a being destitute of reasoning powers, with a mental capacity on a par with that of the honey-bee—unsusceptible of an intelligent comprehension of the consequence of transgressing natural laws—in short, not to a certain degree "his own moral agent"—no more could be expected of him, than could be expected of an insect; but an intelligent man knows that alcohol will degrade him morally and physically if he drinks it to excess, by indulging a thirst prompted by a call from his bodily organism for a renewal of its stimulus. The smouldering embers of morbid desires demand food, and if the inebriate's moral sense is not strong enough to master prompting thirst, and "hold the fort," the enemy is pretty sure to get control, and is, consequently, the prime cause of the poor fellow's downfall.

Should the manufacture of alcoholic stimulants be stopped entirely, the desire for intoxicating drinks in that form will be deprived of its food. Remove the pollen from a colony of bees preparatory to their winter confinement, and if pollen is harmful to them at such times, it is out of their reach; but I believe that the prime causes of bad effects, whether it be diarrhea, or others, would still exist in the same colony, and only lack fuel to keep them active.

On page 789 of the BEE JOURNAL for 1884, Mr. Heddon makes the direct statement, that "spring dwindling is bee-diarrhea in disguise." This may be strictly correct, but if a colony of old bees dibilitated by long confinement in an impure atmosphere, and destitute of early brood, have nothing to do with it, then I am mistaken in believing that bee-diarrhea is not the *vade mecum* of all habitual bee-diseases.

Cumberland, ♀ Maine.

For the American Bee Journal.

The Fertilization of Queens.

E. B. SOUTHWICK, M. D.

I have read much about the queen, her fertilization, and her ability to lay drone eggs or worker eggs at will. These points have been discussed. It is too often the case that in excited discussions we are very apt to consider, as the good people of old did, that a little deception or falsifying is excusable, if the glorifying of the truth is the result. There are some theories which are started from the impulse of a thought, that are as false as the prophets that were sent to fool Ahaz; yet the originator will cause every argument to bend to his views until he has become full in the faith that it is correct; thus deceiving himself and, perhaps, others.

The queen is not a perfect queen until she has been fertilized and enabled to lay an egg that can be made to grow into a queen, worker or drone. An imperfect queen can lay an egg that can be nursed into a drone, but that drone cannot be a perfect drone, for the queen cannot impart to her progeny what she does not possess, and, consequently, such drones cannot fertilize other queens. A queen sometimes will not become perfect until the egg-germs have started, and the first laying of such a queen would produce imperfect drones. This is the reason why some colonies rear nothing but drones for a time, and then rear workers. But when the queen has become perfect, she lays perfect eggs as long as she remains perfect, every egg being the same as far as sex is concerned.

Sex in all animals or insects is the consequent of the nourishment, or situation of the germ in the early part of its growth; or, in other words, sex is caused by mere accident of situation and surroundings. For instance, if a pine tree and birch are planted in the same soil, if the pine possesses the attraction for the elements of the soil, and the birch does not, the pine will grow and increase, but the birch will not, and *vice versa*. So we see that everything is made up by the chance of its surroundings, and the ability of the seed to attract these surroundings; thus, if the surroundings contain more of the elements that go to make up the male, then the male sex is the consequent; and if on the contrary, the female is the result. With this subject the bees are much more familiar than man, for if the queen in her irregular rambles over the combs, when laying, leaves an egg in a drone-cell, and the bees do not want to rear drones, they move the egg to a worker-cell; or if they are found in irregular form, or two or more in a cell, which is quite common, they remove them and place them one in a cell and in order. The bees know whether they want drones, workers or queens, how to arrange places for the egg, and what to surround it with; and they are never fooled if the egg is from a perfect queen.

I have been asked if drones from worker eggs will fertilize queens. I answer no; no more than an egg laid by an unfertilized hen will hatch out a chicken. I have also been asked if I thought that the queen is fertilized more than once during her life. I think that she is; for I can find more reasons for believing that she is, than that she is not. We sometimes find a colony rearing nothing but drones, and in a short time the hive will be full of worker-brood again; in this case I conclude that the queen had lost her perfection and had been re-fertilized. I have had a queen whose eggs would produce very bright yellow bees, all alike, and after a time her bees would be very dark and varied in color. There is in the course of the season, many drones in the apiary, and I have no reason to believe that the queen is not fertilized many times during her life.

Sherman,⊸ Mich.

For the American Bee Journal.

Counteracting False Statements.

HOWARD U. ACKERMAN.

I desire to say a word in regard to the best way of overcoming the pernicious influence of the "Prof. Wiley lie," and kindred falsehoods damaging to our chosen pursuit; and I hope that the ideas which I may advance will call forth criticisms either favorable or otherwise, for "in a multitude of counsel there is wisdom."

It is deeply to be regretted, but it is nevertheless true, that there are some people whose chief delight it is to do, in some back-handed way, all the injury they can to the interests of American bee-keepers.

It is a despicable disposition that would knowingly do an injury to another, through a spirit of revenge, either for a real or fancied wrong. But where in the English language are we to find words strong enough to express our contempt for a person so lost to a sense of honor as to publish a libel upon an entire industry representing an investment of millions of dollars, and the labor of an entire class of hard-working, honest and industrious men and women.

Prof. Wiley's "scientific pleasantry" has, without doubt, cost the bee-keepers of this country, directly and directly, a sum of money which, if we could but know the amount, would stagger us. It has cost the loss of a life-giving sweet to hundreds of "glucose syrup" consumers who have been taught by this same mendacious "pleasantry," that all honey should be regarded with suspicion. It has cost a loss of confidence in human nature, and between producer and consumer. It has, in all probability, been one of the causes that have, during the past year, reduced the price of honey to merely a nominal figure, and in face of the fact that but half of a crop was harvested.

On a par with this "pleasantry" are the "pleasantries" (?) of another species of the same kind—the exceedingly virtuous and fair-minded (?) *friends* of the grape and fruit growers. They regale the reading public through the columns of the newspapers and agricultural periodicals with an account of the great damage done and ravages committed by that "prodigious monster"—the honey-bee—to the fruit interests of the country. Bee-keepers are prone to smile at what they consider the *ignorance* of the writers, but I think that in a majority of cases *malice* would be the proper word to use. Fellow bee-keepers, you cannot afford to let such statements go unchallenged. Depend upon it, they have their influence, when allowed to go uncontroverted.

A bee-keeper reads an article of this kind in some leading newspaper. Watch the smile of but half-concealed disdain that curls his lip as he tosses the paper aside. He knows the article to be an untruth, but frequently fails to realize that thousands of other readers, "the uninitiated," may accept the statement unquestioned. Or, perhaps he arouses himself enough to clip the article out, and sends it to his favorite bee-paper, with a request that it be published. That is better than nothing, to be sure, but it fails to act as an antidote to the poison, for the very simple reason that it fails to reach the affected parts—the readers of the newspaper. Would it not be a more sensible and effective plan to seize your pen and indite a short communication to the periodical in question, pointing out the errors into which their correspondent had fallen, and citing proof and authorities in support of your statements, couching your ideas in such language as not to give offense to the publisher? Nine times out of ten 'your article will be published, and the damaging statements will have been controverted and disproved.

I think that in this way much good can be done to the interests of the fraternity. What injures one, injures all; what helps one, helps all. Perhaps in no other industry, certainly in no other industry classed as agricultural, are the interests of its members so clearly bound in one common whole. We of all people should learn a lesson of the little denizens of the hive, to work together for the common good, and to resent an injury from outside. If we would counteract the influence of an article which takes for its text, "Bees Injure Grapes," we must meet the question at home in the paper that published it, and prove by convincing argument and statements of facts, that such is not the case, instead of turning our backs, so to speak, and firing our ammunition into space.

North Indianapolis,⊙ Ind.

[To counteract the publication of falsehoods, truth should seek the same channel, and award telling blows to the monster. Mr. Ackerman has suggested the right plan, and we hope that it will be followed by all who are able to write an article for publication.—Ed.]

Local Convention Directory.

1885. *Time and place of Meeting.*

May 7.—Progressive, at Bushnell, Ills. J. G. Norton, Sec., Macomb, Ills.

May, 7, 8.—Texas State, at McKinney, Tex. W. R. Howard, Sec., Kingston, Tex.

May 9.—Northern Ohio, at Norwalk, O. H. R. Boardman, Sec., E. Townsend, O.

May 12.—Central Michigan, at Lansing, Mich. E. N. Wood, Sec.

May 12.—Southern Wis., at Janesville, Wis. John C. Lynch, Sec.

May 12.—Keystone, at Scranton, Pa. A. A. Davis, Sec., Clark's Green, Pa.

May 12.—Cortland Union, at Cortland, N. Y. W. H. Beach Sec., Cortland, N. Y.

May 19.—N. W. Ills., and S. W. Wis., at Davis, Ills. Jonathan Stewart, Sec., Rock City, Ill.

May 28.—Mahoning Valley, at Newton Falls, O. E. W. Turner, Sec., Newton Falls, O.

May 28.—N. Mich. Picnic, near McBride, Mich. F. A. Palmer, Sec., McBride, Mich.

May 29.—Haldimand, Ont., at Nelles' Corners, Ont. E. C. Campbell, Sec.

June 19.—Willamette Valley, at La Fayette, Oreg. E. J. Hadley, Sec.

Dec. 8—10.—Michigan State, at Detroit, Mich. H. D. Cutting, Sec., Clinton, Mich.

☞ In order to have this table complete, Secretaries are requested to forward full particulars of time and place of future meetings.—Ed.

CLUBBING LIST.

We supply the **American Bee Journal** one year, and any of the following publications, at the prices quoted in the last column of figures. The first column gives the regular price of both. All postage prepaid.

	Price of both.	*Club*
The Weekly Bee Journal	2 00	
and Gleanings in Bee-Culture	3 00	2 75
Bee-Keepers' Magazine	3 00	2 75
Bee-Keepers' Guide	2 50	2 35
Kansas Bee-Keeper	3 00	2 75
The Apiculturist	3 00	2 90
Canadian Bee-Paper	3 00	2 75
The 7 above-named papers	7 50	6 75

THOMAS G. NEWMAN,
925 West Madison Street, CHICAGO, ILL.

SELECTIONS FROM OUR LETTER BOX

Cool and Disagreeable.—I. J. Glass, Sharpsburg,⊙ Ills., on April 25, 1885, writes as follows:

My bees came through the past trying winter without the loss of a single colony. My neighbors who gave their bees no attention, have lost the greater part, and in some instances all of their apiaries. This spring I have been feeding my bees outside, but I do not like the plan where there are weak colonies, as those needing the least will get the most, the same as feeding different grades of stock together. It is cool and disagreeable here, and the bees are kept in-doors.

Under the Snow too Long.—10—John Rey, (56—35), East Saginaw, Mich., on April 20, 1885, writes thus:

My bees are to-day carrying in the first pollen of the season; they are in good health, and some of the colonies now have brood in 3 and 4 frames. The past has been a hard winter on bees here, about 70 per cent. of them in this county having died. I have lost 21 colonies out of 56, but then I am not disappointed, for I hear that some have lost all they had. I will start in with 35 colonies this season, and I will get some more if I can, for I have a lot of nice, straight combs on hand, and I want to get them into use as soon as possible. If I do as well with my bees the coming summer as I did last season, I will be well pleased. The cause of my losses was that they were under the snow too long, and some got too warm and started too much brood-rearing; and used up all the honey around the cluster within 2 or 3 inches of it, and then they starved with plenty of honey in the hive; some of them had brood in 3 frames. I made a mistake last fall, by not packing my bees. I let them stand just as they were last summer, but I think that if I had packed them, I would not have lost one colony, for they all had honey enough to carry them through the winter. Next fall I will go to the expense of packing them, and I think that it will pay any bee-keeper to do the same.

Report, from J. E. Pitman, Marlboro,♂ Va., on April 25, 1885:

The losses of bees in the Shenandoah valley were much greater in the winter of 1880-81 than the past winter. From two-thirds to three-fourths of the bees have come through in good condition.

Out of the Darkness.—Eugene Secor, Forest City,♂ Iowa, on April 23, 1885, writes:

I have just removed my bees from the cellar, where they have been for 149 days without a flight, and a part of them had not been looked at in the time. They were wintered entirely on natural stores, with plenty—that is, a good deal—of pollen, and in a temperature so much below "normal," according to the authorities—getting as low as 26° above zero several times, and standing for weeks at 30° to 34°—that I greatly feared the result. Those examined in the winter were very "sweaty," and nearly all are quite moldy this spring. My cellar is quite dry (or at least all but the bee-apartment), as I have a heating furnace in it which was kept constantly "running" for six months, but that it did not affect the bee-room will be seen from the above record of temperature. I lost about 30 per cent. of my bees, but not on account of disease; about ¾ of the loss was by starvation. The temperature outside, when I removed them, was about 70°, and I assure you they held a "carnival." They will probably bring in pollen in a day or two, but I have seen none yet. Silver maples and poplars are in bloom. The buds and grass are growing so fast that we can almost "hear" them grow. I notice from my "bee-notes" that, last spring, the first pollen was brought in on April 18; in 1883, April 17; in 1882, April 16; in 1881, April 20. The mortality among bees, so far as my knowledge extends, has been considerable. The winter was one of the coldest ever known here. I think that a good warm cellar, or some place guaranteeing like conditions, is the only proper place to winter bees in the far North. We might just as well shelter our favorite cows on the sunny side of a barbed-wire fence, and expect them to go through the winter all right and yield us a handsome profit, as to leave the bees out where for three months it is likely never to thaw, and expect them to come out all right.

Bee-Yards and Bee-Passages.—J. H. Andre, Lockwood, ♀ N. Y., writes as follows on these subjects:

I think that if bee-keepers would try the temperature of their yards where coal-dust, sand, etc., is used on the ground, they would soon discard it in favor of a lawn. I believe there is a difference of 15 or 20 degrees in the temperature of coal-dust or lawn bee-yards; this must make a great difference in the amount of honey gathered during hot weather. I shall never put foundation into frames again without making a hole through the centre of each comb. I know of some colonies that perished during the past winter, that would have come through all right if there had been holes in the combs, or perhaps a space above the frames would have saved them. I also know of some bees that died by having the frames too close, the spaces being so narrow that the bees had no chance to cluster and keep warm. It is my opinion that each frame should be given 1¾ inches space, and that 3 or 4 of the centre spaces should be ¾ of an inch wide during winter.

Honey-Dew and Winter Losses.—30—I. Feasel, (34—58), Bettsville, ♂ Ohio, on April 26, 1885, writes thus:

My observations lead me to believe that honey-dew forms on the top of the leaves during clear nights under certain conditions of the atmosphere. It requires about three clear nights to accumulate sufficiently as to cause the bees to drop in front of the hives, and it remains and accumulates during every clear night until it rains, and then it is all washed to the earth. If it continues cloudy at night, for a week, the bees do not continue carrying in the saccharine matter, as the aphidæ fail to throw of the spray. Last August my bees were working in the southwest, and we had a rain which reached about ¼ of a mile north of my apiary, and my bees changed their course and worked north for several days. I have lost nearly all of my bees, having saved only a few of my best colonies and non-swarmers. About Jan. 1, my queens commenced laying (they were on the summer stands), the weather was pleasant, the bees were flying, and they commenced capping their brood. The weather turned cold, the mercury was down to zero, and the bees commenced to eat their brood, even uncapped some brood and sucked the young bees in the cells. In two weeks they had diarrhea of the worst kind. On Jan. 31, the bees had a flight, and I opened a few hives and found the queens laying. One colony that had reared a young queen was eating more brood, and had more diarrhea. I was a firm believer in the pollen theory, but this brood-eating has shaken my faith in it. Ninety-five per cent. of the bees are dead in this locality, the well arranged bee-houses, chaff hives, and cellars having all fared alike.

Report, from David Rowe, Lime Ridge, ⊙ Wis., on April 25, 1885:

I commenced the spring of 1884 with 75 colonies of bees, and I obtained 4,500 pounds of extracted honey, the most of which I sold in pails in my home market. I also had 1,000 pounds of comb honey in 1½-pound sections. I sold 15 colonies, and put 160 into the cellar on Nov. 20, 1884. I took them out on April 20, and I found that 30 colonies had died with the diarrhea. I have lost 18 more up to date, thus leaving 112 colonies which are in good condition. My cellar is very dry, without any ventilation except the outside door. The past has been the hardest winter on bees that we have had for 20 years; some bee-keepers have lost their entire apiaries. Last season we had a big flow of white clover and basswood honey, but no fall honey.

Bees Nearly all Dead.—Fred Bechly, Searsboro, ⊙ Iowa, on April 25, 1885, says:

Bees in this neighborhood have nearly all died. I have only 8 colonies left out of 34, and they are so weak that if all were put into one hive, they would make only one good colony.

Bees Filling Themselves with "Fizz." Dwight Furness, Furnessville, ⟜ Ind., on April 27, 1885, writes as follows concerning bees storing weak vinegar:

The following incident from a neighboring apiary may be of interest: There were about 75 colonies of bees in the yard, all blacks, except a half-dozen colonies of hybrid-Italians, and owing to the scarcity of honey during the autumn, robber bees were plentiful and troublesome. Early in October, 1884, an extra strong colony of hybrids discovered a vinegar-keg, that had been filled with sweetened water 3 or 4 days previous, and worked vigorously for several hours carrying off its contents. After the keg had been closed, the liquor continued to leak out around the bung, and the bees appropriated that also. None of the remaining colonies stored any of the liquid. In about two weeks the number of dead bees around the entrance to the hive of this colony, and their peculiar appearance, attracted the attention of the apiarist. Their abdomens were distended to the utmost, and had a black, slimy, almost transparent appearance, the slightest pressure causing them to burst. The fecal mass seemed to be full of solid matter, and resembled the feces of bees suffering from diarrhea. The hive and combs were not soiled in the least, and the bees left the hive to die, the weather permitting almost daily flights. On Nov. 2, the remaining bees (about half of them had died) were shaken from the combs, the uncapped honey extracted; the combs were then returned, and the colony fed 10 pounds of sugar syrup. No more signs of disease were visible from that time, and the colony came through the winter in good condition. Did the sour liquid cause the bees to eat pollen? or is not the saying wrong, that "You can't load a bee's intestines with fizz?" Is this a case of bacteria? About two-thirds of the bees in this vicinity were lost during the past winter—a "cleaning out" necessary to the prosperity of the business.

Only One Colony Lost.—5—J. P. Moore, (54—53), Morgan, ♂ Ky., on April 15, 1885, writes thus:

The past winter has been a terrible one on bees in this locality, the mortality being greater, I think, than that of 1880-81. I hear of heavy losses on all sides, though I am happy to say that I have met with excellent success, having lost only a 4-frame nucleus out of 54 colonies wintered on the summer stands. This is my first loss in wintering. I have one colony that survived the past severe winter in a "Simplicity" hive, with nothing over the frames but a basswood mat, and the cover of the hive. By some mishap I overlooked this colony last fall, when I was filling the upper stories with leaves. When I raised the cover, in March, and found nothing in the top-story, I was very sorry that I had overlooked them, for I was almost sure I would find them dead; one may imagine my agreeable surprise to find them alive and just "a-booming." I have just examined them to-day, and I found their hive literally running over with bees. They are gathering new honey from the elm. The queen is a large and prolific Italian; the workers are large and fine honey-gatherers. Those who think that the blacks winter better than the Italians, would do well to reflect a little on the matter. I shall run this colony exclusively for honey during the coming season, I think, just to see how much they will gather. I must say that I agree with Mr. Heddon, in regard to combs built on foundation in wired frames; they are nice to look at, and nicer to handle.

Nebraska Law on Foul Brood.—Geo. M. Hawley, Lincoln, ⊸ Nebr., on March 16, 1885, writes as follows:

The past has been a severe winter on bees, great losses having been reported throughout this State. I should estimate the loss at two-thirds at least. I clip the following Section from a Bill which was passed by our Legislature the past winter, from the "Nebraska State Journal:" "It provides that it shall be unlawful to have in possession bees, brood-comb or honey known to be infected with 'foul brood' or any other infectious disease peculiar to bees or honey, or any hive or other receptacle in which any foul brood, diseased bees or infected honey has been kept. The penalty for violation of this section is a fine of not less than $10 nor more than $100 and imprisonment in the county jail not more than thirty days. Any person having such bees, honey or receptacle and failing to destroy it immediately, shall be liable to the same penalty. All persons owning or keeping bees shall cause them to be inspected at least once a year, and procure duplicate certificates as to the condition of the same, one to be kept and one to be filed with the county clerk. If the inspector thinks that the disease or infection can be removed, he shall so certify officially in his certificate of inspection, and the owner may keep the bees for six months for treatment. Otherwise the owner must destroy them if the infection is not removed at the end of thirty days. The Governor shall appoint an inspector in any county, on request of the State Bee-Keepers' Association, or any other persons interested in bee-keeping residing in such county. The inspector shall receive $2 a day, to be paid by the owner of the bees inspected."

Report, from B. H. Standish, Evansville, ♀ Wis., on April 29, 1885:

Seven bee-keepers who unitedly owned 331 colonies last fall, now have 163; so it will be seen that the loss in this vicinity is more than one-half. Small bee-keepers usually have lost all.

Gathering Pollen.—B. Jenkinson, Brandon,⊶ Wis., on April 27, 1885, writes thus:

I removed my bees from the cellar on April 20, having been confined for five months without a flight. They came out in excellent condition. I have kept bees for 7 years, and I never had them look so healthy, and never so populous. I wintered 48 colonies, and I did not lose one; other parties that wintered their bees outdoors lost heavily. One party using Mrs. Cotton's hive lost 25 out of 38, and a number of others have had the same misfortune. My bees have commenced to work on the willow and poplar, and are gathering pollen quite fast.

Wide Frames and Sections.—Dr. C. C. Miller, (200—?), Marengo,♂ Ills., on April 23, 1885, writes as follows:

I cannot say how many bees I will have left, but I think that it will be one-fifth less than last fall. I am ashamed to admit that some starved. In reply to Mr. B. F. Little, page 250, I would say: The 2-inch sections were in wide frames, the others in Heddon supers. He will find the matter more fully detailed on page 212 of the BEE JOURNAL for 1884. If wide frames are used, they should be as wide as the sections.

The Past Season in England.—Alfred Rusbridge, Chichester, England, on April 16, 1885, writes thus:

Last season proved exceedingly favorable for bees in this part of the world, and my apiary of less than 40 colonies yielded me a profit of about $500 on the sale of honey only.

Report, etc., from Gilbert W. Dunbar, Embden Centre,⊷ Maine:

The season of 1884 was a very poor one in this part of Maine; but my bees were strong in the spring, and we had quite a good flow of honey from raspberry during the latter part of June and the forepart of July. The result of the season's work was that I doubled my number of colonies and sold an average of $6 worth of honey per colony, spring count. I have read with interest the articles on hibernation, by W. F. Clarke, and I want to say that I have found 40 or 50 colonies of bees in trees during the past ten years, and I never have found but one old colony. My experience has been that a colony of bees in a tree, unless they find an extra good one, stands a very small chance of coming out alive in the spring; in fact, they hibernate forever.

Never Lost a Colony in Wintering.—R. M. Osborn, Kane,♀ Ills., on April 8, 1885, writes as follows:

The past was a winter that will be long remembered. In this vicinity wheat is badly frozen, peach trees killed, and the rabbits and mice have done a great deal of damage to young fruit trees, hedges and vines, and the bees, where they were not properly cared for, have suffered; the loss is very great in this county. I wintered my 54 colonies on the summer stands, all in double-walled hives with rags packed over them and in the space around the brood-chamber. My hives all front south, and the entrances were closed to 3½ inches. I was careful to keep all the snow and sleet away from the entrances. I have not lost one colony of bees up to the present date. Every colony is busily working on the maple bloom, and all are strong and in splendid condition. The ages of my queens are as follows: Five of them are 4 years old; 20, 3 years; 22, 2 years; and 7, 1 year, and they are doing good service. I have kept bees for 8 years, and strange as it may seem to some, I have never lost a colony in wintering, and I have never had a case of bee-diarrhea or foul brood. Hive No. 15 is my own make, and is double-walled, the sides and back of the brood-chamber are glass, and I only packed rags on top of the frames; at the back of the hive is a shutter which I could open at any time and see the bees through the glass. The colony, in this hive, wintered splendidly. My brood-frames are all 11 3-4x8¼ inches, inside measure, and I use only 9 frames at all seasons of the year. Drones are flying to-day, but the weather is cool for this time of year. Zero weather commenced on Dec. 17, 1884, and ended on Feb. 22, 1885; in all we had 22 days when the mercury was below zero. The white and sweet clovers are very promising for a good crop. The ideas advanced by Mr. C. Theilmann, on page 123, exactly coincide with my experience. I have found the substance of his article to be correct—correct so far as I have been able to understand Nature. Nature's works are something that man never can compete with, although man can accomplish, by the help of Nature, many seemingly wonderful things.

Alum in Winter Stores.—J. M. Doudna,(42—42), Alexandria,⊷Minn., on April 20, 1885, writes thus:

My bees came out in good condition without any loss. The cellar was too cold for the papers, but not for the bees. The temperature was from 34° to 38° above zero the most of the time, but it was as low as 22°. Some combs are a little moldy, with very little signs of diarrhea. A few colonies were put into the cellar in October, and they did not have a flight for 173 days; the others were confined only 157 days. There was brood in a few of the hives. Those that were confined the longest, had very little natural stores; they were fed on sugar syrup with one ounce of alum to every 10 pounds of sugar.

Bees in Fair Condition.—F. A. Gibson, Racine,⊸ Wis., on April 18, 1885, says:

I have my bees on the summer stands again, and I have 125 left out of 137. They have come through the winter in fair condition, having been confined without a flight from last Thanksgiving day until April 1. About half of my colonies fill 9 spaces in Langstroth hives. I have learned something about bees during the past hard winter, and I now think that my winter losses are over.

Good Success in Wintering.—L. G. Reed, (26—25), Kent,♂ O., on April 29, 1885, says:

At this writing my bees are all right. I lost only one colony, and that died with the diarrhea in March. Several colonies suffered considerably with the same complaint, but with close attention I have got them over the worst, and they are building up fast. I prepared them for winter in a variety of ways, with a variety of stores, and in a variety of hives, all seeming to do about alike—in fact, I consider my success extraordinary.

Report, from J. C. Bale, Hamilton, Ont., on April 23, 1885:

I have been examining my bees to-day, and I found 18 out of 19 colonies dead, 3 having died since the terrible cold snap came to an end. A few of them starved, but the most of them died with the diarrhea, though packed as they were last winter on the summer stands.

So Far a Splendid Season.—Rev. R. C. Bedford, Montgomery,⊸ Ala., on April 24, 1885, writes thus:

So far this is proving to be a splendid season for bees. I had 6 colonies in the fall, and I left them right where they had been all summer, with no change except a piece of thicker covering in place of the oil-cloth; they wintered nicely. The spring is very late, with us, but the weather has been most delightful since it fairly opened, and I never saw blossoms so abundant. My first swarm issued on April 10; I have since had 3 others. Mine are almost the only bees in movable-frame hives in all this section of country, and I am doing what I can to introduce them among bee-keepers. I shall sell nearly all of my increase this year for that purpose. Every one seems delighted with the change. I expect, at no distant day, to see this one of the greatest honey-producing sections in the world. My white clover is doing nicely. I had two splendid crops of buckwheat last year, and I have sowed 2 bushels this year; it is now looking well.

Nearly a Total Loss.—Ed. S. Harvey, Cavett,⊷ O., on April 30, 1885, writes:

From 90 to 95 per cent. of the bees that were wintered on the summer stands, in this county, have died. I have lost 98 colonies, and have 38 left, but nevertheless I am not discouraged.

Losses are Heavy.—J. B. Mason, (40—80), Mechanic Falls,♀ Maine, on April 29, 1885, writes:

In this locality the losses are very heavy, bees that were wintered on the summer stands in single-walled hives having suffered badly; those in chaff-packed hives have wintered much better. Those wintered in cellars have generally come out in very good condition. The most of my bees were wintered in a cellar where it was necessary to have a fire to keep the temperature above freezing. A pump was in the cellar and a tank of water; it was necessary to pass by the bees several times a day with a light to pump water, and this disturbed the bees, but they came out in the best condition. I removed them from the cellar on April 20, and they brought in pollen on the same day. The first natural pollen was brought in on April 18.

Results of the Winter.—E. Pickup, Limerick,♂ Ills., on April 24, 1885, writes as follows:

My diary shows the number of days when the mercury was down to and below zero, this winter and 1, 2, 3 and 4 winters past, to be respectively about 46, 29, 24, 5 and 34. Colonies unpacked on the summer stands and off of the ground, are nearly extinct; those that were on the ground are better. Some bee-keepers have lost all that were off of the ground, but saved all on the ground. Some of the oldest and best bee-keepers here have lost all. Bees had good flights last fall. There was not much cold weather until about the middle of December, and sudden changes, about the holidays, made the bees uneasy; then set in a long-continued and severely cold spell which did the mischief. My colonies with not the best of honey (a large cider-mill near by), and plenty of pollen, stand thus: Thirty on the summer stands, with wind-break, 2 left; 16 packed on three sides, 8 left; 16 packed all around, no opening in the bottom of the hive, 10 left; and 32 well packed all around and on the top with from 3 to 4 inches of sawdust, and a 2-inch hole in each bottom-board, covered with wire, and straw in under the hives, 30 left. The last plan proved to be the best way for me the past trying winter. I waited about 2 weeks for a favorable time to put the bees out of the bee-house, when April 20 set in warm and still, so I took them out, and I found some good and some dead. I lost about ¼, besides the little colonies. Lots of dead bees were on the floor. Some of the hives were too close to the cellar bottom. The entrances were 5x⅝ inches, and all open. Bees that were put out at 9 a. m. marked their new home, found where I had flour, and returned home with their white loads before noon. I was surprised to see it. I have about one-half of my bees left, the combs, boxes and honey, and a winter's experience; I shall try and make the best of it.

Special Notices.

☞ We want one number each of the BEE JOURNAL of August, 1866—February, 1867. Any one having them to spare will please send a Postal Card. We will pay 50 cents for one copy of each of the two numbers.

◆

☞ **Sample Copies** of the BEE JOURNAL will be sent FREE upon application. Any one intending to get up a club can have sample copies sent to the persons they desire to interview by sending the names to this office.

◆

☞ **Preserve your papers** for reference If you have not got a Binder we will mail you one for 75 cents, or you can have one FREE if you will send us 3 new yearly subscriptions for the BEE JOURNAL.

◆

☞ For two subscribers for the Weekly BEE JOURNAL (or 8 for the Monthly) for one year, we will present a Pocket Dictionary, and send it by mail, postpaid.

◆

☞ Our rates for two or more copies of the book, "Bees and Honey," may be found on the Book List on the second page of this paper. Also wholesale rates on all books where they are purchased "to sell again."

Advertisements.

WARRANTED ITALIAN QUEENS!

NO Cyprian or Syrian Bees ever introduced into this locality. One Queen in May, $1.50; six for $7.50; after June 15, $1 each; six for $5. Send for our **48-page Catalogue**, describing everything needed by bee-keepers. Address,

18A13t **J. B. MASON**, Mechanic Falls, Maine.

HONEY FOR FEEDING

I **HAVE** 2 kegs holding a trifle over 100 pounds each, of extracted honey, which I will sell at 6 cents per lb. on the cars. It is in wine-kegs and the honey has become flavored so that it cannot be sold for table use. It is in good condition and of good quality.

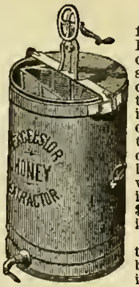
ALFRED H. NEWMAN.
923 West Madison St., CHICAGO, ILLS.

FOR SALE!

I **HAVE** a good Stock and Grain Farm of 350 acres, which I will sell for ½ cash and balance on time, or will rent for the term of 5 years for cash. Said farm is 3 miles east of La Clede Station, I. C. R. R. **BEES** for sale by the pound. Price, $1 per pound.

Address GEORGE L. HERRLING,
18A4t La Clede, Fayette Co., Ills.

EXCELSIOR
HONEY EXTRACTORS



In answer to frequent inquiries for Extractors carrying 3 and 4 Langstroth frames, I have concluded to adopt these two new sizes. The 3 frame basket is in a can of the same size and style as the 2 frame. The 4 frame basket is in the larger can, with the cone or metal standard for the basket to revolve upon, leaving room underneath the basket for 75 or 80 lbs. of honey. It will be complete, with covers, and in every way identical, except in size, with the $16.00 Extractor, 13x20, which is intended for any size of frame.

Excepting with the $8.00 Extractors, all the different styles have strainers over the canal leading to the honey gate, and movable sides in the Comb Baskets. The $8.00 and $10.00 Extractors have no covers.

For 2 American frames,	13x13	inches	$8 00
For 2 Langstroth "	10x18	"	8 00
For 3 " "	10x18	"	10 00
For 4 " "	10x18	"	14 00
For 2 frames of any size,	13x20	"	12 00
For 3 " "	13x20	"	12 00
For 4 " "	13x20	"	16 00

ALFRED H. NEWMAN,
923 West Madison St., CHICAGO, ILL.

Land-Owners, Attention!

All persons who have lost Real Estate in Iowa, by reason of TAX OR JUDICIAL SALES, are invited to correspond with **RICKEL & BULL**, Attorneys at Law, 41 First Ave., **Cedar Rapids, Iowa**, and they will learn something to their advantage.

Muth's Honey Extractor,

Square Glass Honey Jars, Tin Buckets,
Langstroth Bee-Hives, Honey-Sections, etc.
Apply to **CHAS. F. MUTH,**
Freeman & Central Ave., - CINCINNATI, O.
☞ Send 10c. for Practical Hints to Bee-Keepers.

Dadant's Foundation Factory, wholesale and retail. See Advertisement in another column.

ALFRED H. NEWMAN,
Dealer in all kinds of

APIARIAN SUPPLIES,

AND
HONEY AND BEESWAX,
923 West Madison Street,
CHICAGO, ILL.

MY ILLUSTRATED CATALOGUE
sent FREE upon application.

The VICTOR HIVE

DOUBLE-WALLED or CHAFF HIVES 5 in one lot, each, **$3.50**; 10, each, **$3 40**; 25, each, **$3.25**; 100, each, **$3.00**—in the Flat.

SINGLE-WALLED HIVES, 5 in one lot, each, **$2.50**; 10, each, **$2.40**; 25, each, **$2.25**; 100, each, **$2.00**—in the Flat.

WHITE POPLAR DOVETAILED SECTIONS, any size under 6x6x1¾, per 1,000, $6.00. Perfectly accurate; no better.

APIS AMERICANA.—Orders for Queens of the beautiful **SYRIO-ALBINOS**, will now be received. Reared by my **new method**, all are large and fine and perfect. We have made a great discovery in Queen-Rearing, and hereby challenge the production (by natural swarming or otherwise) of Queens that will excel ours in any valuable quality. Isolated 3 miles from other bees. First come, first served. Send for circulars.

Address, **DR. G. L. TINKER,**
1Atf **New Philadelphia, O.**

ITALIAN QUEENS, $1; $10 per doz.; tested, $2.00. Safe arrival guaranteed. Circular free.
18A2t J. M. KILLOUGH & CO., San Marcos, Tex.

Dadant's Foundation Factory, wholesale and retail. See Advertisement in another column.

Behold this Tear!

—o—

The cause of my grief is, that Doolittle's **best**

ITALIAN BEES

compel me to work so hard to care for their surplus Honey, that I have not attained my growth, even at this advanced age of life. It is a terrible warning to all, not to get any of his **Queens!** but perhaps others tougher than I, could "stand the racket." If any think they can, **Doolittle** will furnish Queens from his **Best Stock** at the following prices:

Untested Queens, each	$ 1 00
" " per doz	10 20
" " reared by natural swarming, each	1 50
Untested Queens, reared by natural swarming, per doz	15 00
Tested Queens, each	2 00
" " by natural swarming, each	3 00
" " 1884 raising, sent in May, each	5 00
Extra Selected, two years old, each	10 00

☞ If any further information is desired, send for 6-page Circular. Address,

G. M. DOOLITTLE,
10C5t **Borodino, Onon. Co., N. Y.**

BEE-KEEPERS' GUIDE;

Or, MANUAL OF THE APIARY.

12,000 SOLD SINCE 1876.

13th Thousand Just Out!

10th Thousand Sold in Just Four Months!

8,000 Sold Since May, 1883.

More than 50 pages, and more than 50 fine illustrations were added in the 8th edition. The whole work has been thoroughly revised, and contains the very latest in respect to bee-keeping. It is certainly the fullest and most scientific work treating of bees in the World. Price, by mail, **$1 25**. Liberal discount to dealers and to clubs.

A. J. COOK, Author and Publisher,
1Cly Agricultural College, Mich.

☞ For sale also at the Office of the BEE JOURNAL, at wholesale or retail.

(ESTABLISHED 1864.)

BEE-SUPPLIES.

We furnish EVERYTHING needed in the Apiary, of practical construction, and at the **lowest price.** Satisfaction guaranteed. Send your address on a Postal card, and we will send you our Illustrated Catalogue free. **E. KRETCHMER,**
2C12t COBURG, IOWA.

Friends, if you are in any way interested in

BEES OR HONEY

We will with pleasure send a sample copy of the **Semi-Monthly Gleanings in Bee-Culture**, with a descriptive price-list of the latest improvements in **Hives, Honey Extractors, Comb Foundation, Section Honey Boxes**, all books and journals, and everything pertaining to Bee Culture. *Nothing Patented.* Simply send your address *written plainly*, to

Ctf A. I. ROOT, Medina, O.

APIARIAN SUPPLIES---1885.

ALL-IN-ONE-PIECE SECTIONS, Langstroth Hives, Section Cases, Shipping Crates, Brood Frames, Foundation, Smokers, and all other Supplies needed in the apiary. **ITALIAN BEES & QUEENS** in season. Send for Price-List. Address,

8C6t L. L. TRIEM, La Porte City, Iowa.

Six Apiaries. All interested in **Bees** or **Honey** should send for our **1000** colonies of Bees for sale. **Price List** and **Catalogue** of **Bees, Queens,** and **Apiarian Implements.** *Safe Delivery guaranteed.* **FLANAGAN & ILLINSKI,**
Lock Box 995, **Belleville,** *St.Clair* Co., **Ills.**
1ABly

Vandervort Comb Fdn. Mills,

Send for Samples & Reduced Price-List.
ABtf **J. VANDERVORT, Laceyville, Pa.**

BEE-HIVES, SECTIONS,

FOUNDATION, &c.

WITH a capacity of 7,000 square feet of floor, we claim the best facilities for furnishing Supplies in the southeast. **OUR NEW FACTORY IS EQUIPPED** with the best and latest improved Machinery, which enables us to furnish our goods "up to the times," and will furnish **all kinds at very reasonable prices.** Parties needing Supplies would do well to see our Price-List before buying.

Queens and Bees for 1885!

It should be remembered that we are **headquarters** for the **Albinos**, and make a specialty of this variety. We also breed from select Italians. Send for Circular and Price-List. Address,

S. VALENTINE & SON, Hagerstown, Md.
13Ctf

BEE-KEEPERS!

Headquarters for all kinds of **Bee-Keepers' Supplies**, such as **Hives, Sections, Comb Foundation, Honey Extractors, Bee Smokers, Crates, Honey Buckets, Veils** etc., etc.

Notice Our Prices!

1 lb. all-in-one-piece Section, **$4.50 per M.**
Comb Foundation . . . . **.50 per lb.**
Hives . . . . **1.00 each.**

Italian Bees and Queens at lowest figures. Send name and address, and we will mail you one of our *Illustrated Catalogues Free.*

American M'f'g Co., New Carlisle, O.

Bees for Sale

Full colonies Italians in Simplicity HIVES (L.) frame, in May, $10; June, $9. Hybrids, $1 less. Satisfaction guaranteed. DR. JOHN S. GATES,
14A6t Wilkinsonville, Worcester Co, Mass.

NOTICE!

The following goods For Sale at a **bargain:**

100,000 2-lb. One-Piece Sections,
5¼x6x1¾.

1,000 LANGSTROTH HIVES,

in the flat; 500 one-and-one-half story Simplicity Hives, in the flat; also 500 Simplicities, nailed and painted, ready for the bees. All of the above goods are First-Class. Write for prices.

R. L. SHOEMAKER,
12Atf NEW COMERSTOWN, O.

BEES, EARLY QUEENS,

AND SUPPLIES FOR 1885.

IF you need **Early Queens and Bees bred for business** and beauty, nuclei or full colonies; sections and hives of best workmanship; **Dunham or Vandervort Comb Foundation,** send for my catalogue for 1885.

Address **J. P. H. BROWN,**
5A21t AUGUSTA, GEORGIA.

---

60 Colonies of BEES

FOR SALE.

For particulars, call upon, or address,

A. L. EDWARDS, SKANEATELES, N. Y.
14A8t 5B1t

Bee-Keepers' Supplies.

We have added to our LARGE FACTORY a SPECIAL DEPARTMENT for the

Manufacturing of Bee-Hives,

AND

White Poplar Dovetailed **SECTIONS,**
Also, One and Two-piece

☞ All Orders will be filled promptly at the

LOWEST FIGURES,

Send Stamp for Catalogue and Samples.

The H. F. MOELLER M'f'g Co.
1A26t DAVENPORT, IOWA.

1500 VALUABLE PRESENTS GIVEN AWAY

We are thoroughly convinced that the welfare of apiculture demands that the

"AMERICAN APICULTURIST"

be placed in the hands of every bee-keeper in America, and we propose to increase our subscription list to 5,000 during the coming season.

In order to do this we shall **GIVE** away to **NEW** subscribers 1500 presents as follows:

The first 500 who send us $1.75 cash (returning this adv), will receive Vols. I & II, for 1883 & 1884, bound in one volume, in cloth, together with the Apiculturist for the remainder of the year (1885) from June (7 mos.) and also as a present, a choice warranted Queen worth $1.50, bred by Alley's method, either Italian, Syrian, Carniolan, Albino or Cyprian.

The second 500 will receive one of Alley's Drone-Traps, and the third 500, one of Locke's Bee-Feeders.

Those who are entitled to presents will be notified, and new subscribers, who do not receive a present, can secure one of these queens by sending us $1.00 extra.

These are the best offers ever made to new subscribers by any bee-periodical, and if you wish to secure one of these presents, you must reply at once, as the call will be a large one. Our object is to induce you to give the Apiculturist a fair trial.

A NEW ENTERPRISE.

"The Apiculturist" Experimental BEE-FARM!

We have purchased the old

Bay State Queen-Breeding Apiary,

established 27 years ago at Wenham, Mass., by Henry Alley, together with his entire Queen and bee-business, including his choice and valuable collection of breeding queens, the result of 23 years' careful selection and breeding.

We have Italian breeding-queens for which we would refuse $100 each, and these are those from which the rich golden yellow Queens that we are giving away as presents will be reared.

Our Queen-rearing department is under the personal supervision of Mr. Alley, whose services we have secured at a large salary. We shall deal in

Queens and Bees, Full Colonies, Nuclei, Etc.

Our little "Bee-Keepers' Companion," a pamphlet filled with valuable information to the beginner in bee-keeping, contains a likeness of Mr. Henry Alley, the veteran Queen-breeder, who has reared and sold more Queen-bees than any other apiarist in America, and has given to apiculture the only scientific and systematic method of queen-rearing extant.

The "Companion" (sent free) also contains our Circular and Price-List. If you wish to secure Choice Queens that will produce first-class bees for honey-gathering, give us a trial. Order early so as to avoid delay.

Send your address at once for a copy of the "Bee-Keepers' Companion."

Address SILAS M. LOCKE & CO., - Wenham, Mass.

ITALIAN BEES and QUEENS FOR SALE!

For terms, address C. WEEKS, Clifton, Tenn.
17A4t

$200,000

in presents given away. Send us 5 cents postage, and by mail you will get *free* a package of goods of large value, that will start you in work that will at once bring you in money faster than anything else in America. All about the $200,000 in presents with each box. Agents wanted everywhere, of either sex, of all ages, for all the time, or spare time only, to work for us at their own homes. Fortunes for all workers absolutely assured. Don't delay. H. HALLETT & CO.
51A1y Portland, Maine.

WIN more money than at anything else by taking an agency for the best selling book out. Beginners succeed grandly. None fail. Terms free. HALLETT BOOK CO.
51A1y Portland, Maine.

A PRIZE,

Send six cents for postage, and receive free, a costly box of goods which will help you to more money right away than anything else in this world. All, of either sex, succeed from first hour. The broad road to fortune opens before the workers, absolutely sure. At once address TRUE & CO., Augusta, Maine.
51A1y

---

100 Colonies of Choice **ITALIAN BEES FOR SALE.** Send for Price-List. Address,
W. J. DAVIS, (Box 91)
14A9t Youngsville, Warren County, Pa.

Given's Foundation Press.

THE GIVEN PRESS stands in the **front rank** for manufacturing **FOUNDATION in Wired Frames,** as well as foundation for **SECTIONS.** Without a dissenting voice, all of our customers affirm its superiority.

Send for Circulars and Samples.

D. S. GIVEN & CO.,
1ABtf HOOPESTON, Vermillion Co., Ills.

1879. ——**ITALIAN**—— 1885.

QUEENS!

FOR ITALIAN QUEENS in their purity, and that cannot be excelled, **Comb Foundation** and **Supplies** generally, send for Circular.

12 UNTESTED QUEENS FOR $11.00.
15Atf **T. S. HALL, Kirby's Creek, Ala.**

---

60 New Style, Embossed Hidden Name and Chromo Visiting Cards, no 2 alike, name on, 10c., 13 packs $1; warranted best sold. Sample book, 4c. L. JONES & CO., Nassau, N. Y.
11A1y

W. Z. HUTCHINSON,

Hogersville, Genesee Co., Mich.,

can furnish just as neat, white, smooth and perfect, dovetailed, white poplar sections as there are made. Send for sample and prices. A few full colonies of choice Italians in Heddon hives for sale at $8.00 per colony. Untested Italian Queens (from the South) $1.50 each. Tested Queens reared last year in the home apiary, $3.00 each. Beeswax wanted. Make money orders payable at Flint. 16Atf

WEEKLY EDITION
OF THE
AMERICAN
ESTABLISHED IN 1861
OLDEST BEE PAPER IN AMERICA
BEE JOURNAL
PUBLISHED BY
THOMAS G. NEWMAN,
EDITOR AND PROPRIETOR,
925 WEST MADISON-STREET, CHICAGO, ILL.
Weekly, $2 a year; Monthly, 50 cents.

Vol. XXI. May 13, 1885. No. 19.

APICULTURAL NEWS ITEMS.

EDITORIAL AND SELECTED.

It is so cold now that we could well imagine that it was January instead of May. Here the trees are yet without leaves.

The bitterest herb in the woods is called "failure." The bitterest experience for a bee-keeper is "failure."

The Reversible-Frame Craze is about over—at least we hope so. Is it not a very doubtful expedient, any way?

If a person is born with a mean, stingy or dishonorable disposition, do not waste any time in endeavors of reform. It is useless.

Bees and Queens are now in large demand. Those who are fortunate enough to have bees for sale will do a "land-office business" this year.

Economy is a virtue, but it is not true economy to cut off the small expense of taking a bee-paper, or buying a bee-book. These are NECESSARIES to all engaged in apiarian pursuits.

The weather for May has been very cold, and Prof. Mansill predicts that during May the temperature will likely average below the mean of the season, both in the United States and Europe. The worst storms will occur about the 3d and 4th, 10th to the 15th, the 23rd, 24th, 28th, 30th and 31st.

The losses of Bees during the past winter will make it necessary to increase the numbers as fast as possible, so as to fill the empty hives. Feeding will be "the order of the day." Care should be taken not to overdo the matter—feed just enough for the use of the bees and brood each day, and no more; else the result may be the opposite of that desired, and breeding will be retarded.

The Auction Sale of the apiary of Dr. L. James, at Atlanta, Ill., on April 21st attracted bidders from a considerable distance. Besides selling 100 colonies of bees, a number of empty hives, honey and bee-keeping utensils were sold. The colonies of bees were sold at prices ranging from $3 to $9 each. Some months ago, as announced in the BEE JOURNAL, Dr. James was prostrated by a stroke of paralysis, and we learn that he still lingers in a helpless condition.

Garrett's New Queen-Cage, intended for both shipping and introducing queens, is on our desk. Mr. Garrett says he has "used it to introduce 100 queens," and has not lost any of them. By it, the queen can be caged, and introduced without handling, and is the best thing we have seen for the purpose. It is something like the Peet cage, but has several new features, and is smaller than it. We have no doubt of the correctness of Mr. Garrett's assertion, that "any one can introduce a queen successfully with this cage."

Queenless Colonies.—Mr. F. L. Dougherty says that in a money point of view, it is hardly worth while to bother with queenless colonies at this season of the year. A better plan is to give the bees to a weaker colony which has a queen. Crowd the bees on one or two frames. Late in the evening, after the bees have quit flying, hang the frames in the hive by the side of those containing the queen, and they will unite very readily. It will help matters to set a short board up in front of the hive to make the bees take a new location on leaving the hive. The old hive from which they were taken should be entirely removed from the old stand, so as to destroy the old land-marks. Without the latter precaution, the bees soon forget the new markings in the presence of the old location.

The Transmission of Foul Brood is discussed by Mr. W. H. Stewart, on page 297. Without doubt, scrupulous care should be taken not to spread the disease, but the recommendations of Mr. Stewart are so sweeping and surprising that they almost take one's breath. The rearing, sale and shipping of queens, which is now carried on so largely as an industry, would be entirely destroyed were Mr. Stewart's plan to be generally adopted.

Would it not be as consistent to require the suspension of all business in the United States of America, because, forsooth, the cholera is expected here this summer (aye, it is reported to be already here in some isolated cases), and the circulating medium—money, with which business is transacted, consisting of gold, silver, nickel, copper (and worst of all) paper—is charged with spreading contagious diseases?

Many of the thousands of filthy "greenbacks" now circulating over the country have been in the possession of diseased persons, and, of course, when they pass into the hands and pockets of those in good health, they endanger the lives of all into whose hands they pass. Still we must live—we must do business—we must have and use money. In other words, we are COMPELLED TO TAKE THE RISK DAILY, and yet, but few, comparatively, ever catch the contagion.

The efforts put forth in order to obtain permission to transmit bees in the mails, and the difficulties encountered were so numerous and almost insurmountable, that we should be very slow to give any countenance to rash advice about the enactment of a law to exclude them from the mails.

While we would recommend caution and careful inspection of apiaries to discover the least taint of foul brood (so called), and the strict environment of all infected districts—we must be AS CAREFUL not to destroy the apicultural business of the country, and thus bring disaster to the multitudes who gain a subsistence thereby.

E. W. Turner, Secretary of the Mahoning Valley Bee-Keepers' Association, writes us that the next meeting of that association has been postponed until June 5, 1885.

Business, to a very great extent, depends mainly upon the success which attends the farmer. The prosperity or adversity of the "tillers of the soil" largely control the whole business of the country. Just so is it with bee-keeping. Upon the success or failure of the apiarist depends the prosperity or adversity of the queen-breeder, the importer, the supply dealer, and the publisher. "Pulsations" in the apiary are felt keenly in all these lines of business. Promptness in paying small debts will assist all around. Every one should, therefore, studiously avoid carelessness and procrastination in liquidating the smaller claims. By so doing we may all "help one another." Keep the dollar busily "rolling around the circle," and it will surely return to cheer and assist even the one who first sets it rolling.

Honey Oozing from Cells.—Prof. A. J. Cook writes thus on this subject: "I am surprised at Mr. Doolittle's statement, on page 260, that honey can only ooze from capped cells, on account of large bulk, and only swells from dampness. What about fermentation? Honey in the comb, or when extracted, is almost sure to ferment in a cool, damp atmosphere. I have noticed this often in comb honey; and, Mr. Editor, how about that barrel that exploded in your office which you showed me in 1878? That was gathering dampness with a vengeance. In fermentation, gases are generated; and, like steam, they push hard." The barrel of honey mentioned by Prof. Cook came from Wisconsin. It was gathered after a wet season and the honey fermented, blew out the bung, and ran all over the floor.

Spring Work.—The "Kansas Bee-Keeper" gives the following as seasonable hints: "What is required, is to endeavor to get every colony in such condition as to strength, that it will have a large and effective force of foragers ready to take advantage of the first honey yield. Every bee-keeper is supposed to know when the first yield of honey will be found, and of course will know how long it will take to strengthen up his colonies with young bees. Stimulative feeding should be used with prudence and judgment, if at all, and only diluted syrup or honey should be used. If the bees are stimulated beyond their strength, the intervention of 2 or 3 cold days and nights may chill the brood thus reared, owing to the colony not being strong enough to cover it. As a rule, it is better for beginners to see that food enough is supplied for the wants of both bees and brood, than attempt to stimulate to any extent, and they should be particularly careful about spreading brood, until they have had sufficient experience to enable them to do so to the best advantage. Old bee-keepers have the experience of past years as a guide; the younger ones have no such experience, and had better go a little slow, than to run any dangerous risks. If they see that their hives are well cleaned out, the bees well supplied with stores, and that very weak colonies are strengthened by the addition of an occasional frame of brood, they will probably succeed better than if they should attempt to force breeding without fully understanding the business."

QUERIES

WITH

REPLIES by Prominent Apiarists.

Prevention of Increase.

Query, No. 61.—What is the best way to keep down increase? I have 33 colonies of Italian bees, which are worked for comb honey, and they produce about as much honey (1,000 lbs.) as my home trade demands, so I do not want to increase my number of colonies?—W. R. Y.

Prof. A. J. Cook says: "The surest way is by extracting closely."

G. W. Demaree replies thus: "With as few colonies as you mention, perhaps the best way to prevent increase is to cut out the queen-cells, and return the bees; the plan, however, makes too much work to suit me."

G. M. Doolittle replies as follows: "The only profitable way to keep down increase, is to unite two colonies in early spring, and then let them divide by natural swarming, to the original number; for I believe the swarming-plan will give better results than any non-swarming plan so far devised, where the apiary is worked for comb honey."

Messrs. Dadant & Son reply: "No drones, a young prolific queen, plenty of ventilation and plenty of room, especially empty combs."

Dr. G. L. Tinker remarks: "The best way to prevent increase is to use the extractor; but I have been able to get more comb honey where natural swarming was allowed. If one has too many colonies, they may be doubled up at any time after the honey harvest is over. Bees are best united in the evening, after dusk, using peppermint essence with an atomizer, and caging temporarily the reserved queen."

◆

Moving Bees a Short Distance.

Query, No. 62.—I have 8 colonies of bees in hives packed side by side. How can I move a part of them a short distance, leaving the remainder where they are now? The bees have flown freely.—N. L.

G. M. Doolittle remarks thus: "In this case I should move the strongest colonies, and let the weak ones be strengthened by the returning bees from those moved."

Prof. A. J. Cook replies: "By moving each colony a little—2 or 3 feet, each day—the thing is easily done."

W. Z. Hutchinson replies thus: "If some of the colonies are stronger than others, move away the strong ones and allow the returning bees to join the weak ones. If this is not advisable, wait until a storm or cool weather has kept them in a few days, then move them, and set a slanting board in front of each hive. If the distance is very short, the hives can be moved a few inches each day."

G. W. Demaree answers: "I move bees whenever and wherever I please. When moving bees under the disadvantages you name, move them in the evening, and keep them closed up till nearly sunset; place some boards before the entrances of the hives, and disguise their old location by spreading sheets over the hives near the old stand. If the hives removed were close to other hives, the sheets should be kept dripping wet. After 1 or 2 days the trouble will be over. If they are to be moved but a short distance, it may be done by moving them a little at a time."

Dr. G. L. Tinker remarks thus: "Bees may be moved a short distance, a rod or two, by moving the hive 5 or 6 feet every day; but I find the least disturbance and as little loss from moving the colony at once to the place desired, be it one rod or a hundred; then stand a board up in front of the hive, or disguise it in any way. The bees should be turned to one side, and the entrance made dark. They will then mark the new location—will go at first to the old, but return to the new."

Dadant & Son answer thus: "You will lose some bees anyhow from the moved colonies. The best plan is to place a large block or board leaning against the front of the hive for a few days. after moving. When the bees come out, they at once notice that something is wrong, and they mark the location; otherwise they would start in a 'bee-line,' as usual, and get lost."

◆

Virgin Queens and Drone Eggs.

Query, No. 63.—Does a virgin queen ever lay any but drone eggs? Are the drones from these eggs capable of fertilizing queens?—A. O. C.

W. Z. Hutchinson answers thus: "To the first part, no."

Prof. A. J. Cook remarks: "1. No, never. 2. I have no doubt of it; as they produce the active sperm-cells."

Dr. G. L. Tinker says: "To both questions I say no."

James Heddon answers as follows: "1. Entomologists say 'no,' and my practice has so far proved nothing to the contrary. 2. These same scientists say 'yes.'"

G. M. Doolittle replies thus: "1. I answer no. 2. It has not been satisfactorily settled to all minds that such drones are 'as good as any.'"

G. W. Demaree replies as follows: "Of the many experiments that I have tried, I have never seen but one case where a virgin queen apparently laid a few worker eggs; but as I could never see the same thing the second time, I concluded that there must be a mistake somewhere. On three occasions I tried to have queens mated by drones from virgin queens, once in February, and twice in March; I had quite a number of these drones, but I got no queens mated till the drones of the mated queens began to fly."

Dadant & Son remark: "1. No. 2. Yes, why not?"

CORRESPONDENCE.

Explanatory.—The figures BEFORE the names indicate the number of years that the person has kept bees. Those AFTER, show the number of colonies the writer had in the previous spring and fall, or fall and spring, as the time of the year may require.

This mark ⊙ indicates that the apiarist is located near the centre of the State named: ♁ north of the centre; ♀ south; ○+ east; +○ west; and this ♂ northeast; ⟍○ northwest; ○⟍ southeast; and ⚲ southwest of the centre of the State mentioned.

For the American Bee Journal.

Was It Bee-Diarrhea?

C. W. DAYTON, (50—112).

Early last fall I packed 2 colonies of bees with forest leaves to be wintered on the summer stands. One of the colonies occupied 6 and the other 2 combs containing natural stores. The colony on 2 combs was furnished additional clustering-space by raising their combs high above the bottom-board.

On Nov. 17, the mercury was below 38° above zero, and continued there until March 4, 1885, when I examined the colony which occupied 6 combs, and on removing the comb which was the farthest from the cluster and the entrance to the hive, I found it to be wet and moldy, and there was a considerable amount of ice adhering to the hive in the lower part of the brood-chamber. The bees, to all appearances, were as small and had as undistended abdomens as in the fall, and from the few which flew out of the hive on account of the disturbance. I failed to perceive any droppings of excrement. I removed neither of the combs in the other hive, but from below or above I could see no moisture in any form on anything which was in immediate connection with the brood-chamber, and the bees were as small and slim as were those in the other colony.

Five days after this examination, and on the 112th day of their confinement, the bees were allowed a flight. Quite early in the day, and as the mercury neared 44° above zero, the bees in the colony occupying 6 combs began rushing into the open air. At this time the bees that before were so small and sprightly, had increased in size, and were objects possessing great clumsiness. The evacuations were copious, and with but few exceptions they were of a consistency of pure water containing portions of pollen-colored feces that appeared to be entirely unmixed; being as distinguishable from the transparent portion as it would have been had it been stone, and in the order of evacuation the solid matter was first and the water last. In the evening there remained on the alighting-board a large number of bloated bees that were unable to void the feces, and which died from the effects of water-loaded intestines which were clogged by solid fecal matter. An examination of the brood-chamber found the water and ice, which had been noticed at the time of the first examination, to be gone, and the whole brood-chamber was now bright and clean from the top to the bottom. For 21 days following the time of this flight, the bees were confined closely within the hive, and at the time of their next flight, the few visible droppings would have been unnoticed by all except, perhaps, a very close observer.

It was late in the afternoon when the bees in the other colony began to fly, and they were as small and slim as ever, and the evacuations, when they were visible, were small, of a solid nature, and generally pollen-colored. Examination revealed patches of capped and uncapped brood in two combs in one colony, and in three combs in the other.

The above are the conditions in one case out of a large number, in which instance the disease-producing agents were rather more separated than usual. In a hundred colonies which were afflicted with diarrhea, I have yet to find an instance wherein if the the liquid portion should be evaporated out of the excreta there would remain scarcely enough to half-fill the intestines of a bee; by this I do not mean converted into dry feces, but having dryness equal to that found in healthy excreta. In my experience the thinness of the accumulations and the length of the confinement after the intestines become overloaded, are the correct measures of the severity of the disease. I believe that the exclusion of pollen from the winter stores is not a prevention of diarrhea, but a prevention of the sipping of moisture.

Bradford, Iowa.

For the American Bee Journal.

Preventing Honey-Granulation.

A. B. WEED.

The following paragraph which I took from a prominent agricultural paper, that had clipped it from the *Scientific American*, shows, in part, how much abuse and misrepresentation the honey trade is required to withstand from so-called scientists, and also from those agricultural publications which should be found among its friends and promoters:

"Having for several years had considerable trouble and loss in keeping pure extracted honey, on account of its tendency, in a short time (particularly in warm weather), to crystallize, I have been ready for any remedy that was feasible. One lot that I purchased in the comb and extracted myself, soon became almost worthless from this cause. Some two months ago I had a small lot that I found crystallized when wanted for use, although I had taken the precaution to cork it tightly and put in a cool place in the cellar. It occurred to me to see what would be the result from melting and adding a small amount of glycerine. Placing the bottle in a water bath, I soon had it melted and added one ounce of glycerine to about 1½ pounds of the honey, setting it aside to cool. It has shown no sign of re-crystallization, as yet, and I am just using the last of it. I can see no objection to this on the score of adulteration, or any harm from its use."

By the learned correspondent throwing out that suggestion, we may soon hear the cry, "Honey is adulterated with glycerine!" Unless he observes greater "precautions" than he did with his honey—keeping it tightly corked in a cool cellar—those who understand the nature of the article spoken of, will discover that the only thing in question which is not adulterated, is his eagerness to recommend methods before testing them, and to overcome difficulties which would not have occurred but for his own mismanagement.

Detroit, Mich.

Read at the N. Y. and Eastern Convention.

Rendering Conventions Profitable.

A. J. KING.

The published proceedings of our conventions, extending over a score of years, has done much to bring about the present advanced state of the art of profitable bee-keeping in the United States. Twenty-five years ago bee-keepers' associations were "like angel's visits—few and far between," and the number of persons engaged exclusively in honey-production, could be counted on one's fingers; to-day we have a National Association, and hundreds of minor societies scattered all over the country from Maine to California, and from Canada to the Gulf of Mexico. The published deliberations of these numerous associations have not been confined to the bee-papers, but have extended to the agricultural press of the entire country, and to a limited extent to the political and religious papers; and the consequence is that a large proportion of intelligent persons know something of the merits of modern bee-keeping as distinguished from that carried on by our grandfathers with the hollow-log, box-hives and sulphur pits, and are also able to appreciate the difference in the sweet products of these different systems of bee-keeping.

To enumerate all the beneficial results to the bee-keeping industry, which may be traced directly or indirectly to our conventions, would be well nigh impossible, besides being foreign to the design of this essay, which is to point out supposed defects and suggest possible remedies in our present methods of conducting them.

Beginners, especially, are often confused by the opposing statements of professional bee-keepers regarding the same subject, for instance: A strongly recommends early stimulatic feeding, and gives practical results to "back up" his assertions, while B just as strongly condemns it, and proves his position correct by results in his own experience. A advocates wintering bees on summer stands, B denounces it: A recommends breeding late in the fall, while B pities any one foolish enough to follow such advice; A says that the bees know what they are about when laying in a reasonable supply of bread or pollen with their winter stores, but B says that they will die with the diarrhea; A recommends buckwheat as a bountiful source of fall honey, B doubts if it is a honey-plant at all; and so on to the end of the chapter. A and B represent large classes of bee-keepers equally experienced and equally honest, and the subjects of their differences are also representative of all the principal things to be done in order to secure the best results of our modern scientific management.

Where, then, is the reason for this difference of experience and the difference in the advice given? some one will ask. We reply that it consists mainly in the outward circumstances surrounding each individual case. For instance, in the far North, bees must be housed in winter to secure the best results. In this latitude chaff hives are the best, while for the far South, single-walled hives answer every purpose. Stimulative feeding in the cellar is absurd; the same in chaff-hives on the summer stand is highly advantageous, while in the South it is not needed. Buckwheat and many other so-called honey-plants in some localities yield a bountiful supply of honey; in other places they yield next to nothing; so the beginner might be eminently successful in the favored locality, while with the same forage and management he would utterly fail in the other.

Temperature, density and moisture of the atmosphere together with the quality of the soil, are the chief outward surroundings which should be studied and known by every bee-keeper. He should then by experiment find out the habits of the trees, shrubs, plants and grasses classed as honey-flora; with this knowledge he will be able to enter the pursuit of bee-keeping with a fair promise of success. When he arises in convention to give in his experience, all the above information should be given as a kind of preface to his success or failure as the case may be, then the apparent contradictions will be reconciled, and our convention reports will be reliable and helpful. To forward this idea I would suggest the appointing of committees to investigate into the conditions by actual experiment which produce such varying results in our chosen pursuit, say a committee of twelve or more, on honey-plants, each taking about twenty species of our best honey-producers, and being located fifteen or twenty miles apart, north and south, with thermometers, barometers, and hygrometers, note carefully the readings of these instruments, whenever any plant is affording nectar abundantly.

I would also have appointed similar committees to experiment on wintering bees. Putting all methods to the test, and noting all the outward surroundings of every test; also committees on experimenting with the different races of bees; also on reversible frames to increase the amount of comb honey; and so of everything on which such wide diversities ot opinion now exist. The reports of these various committees would be looked forward to with intense interest, and the conventions would be filled with our most progressive honey-producers, because it would pay them to attend.

Other things being equal, certain methods will always produce the same results, and I believe it is possible by some such means as we have here only hinted at, to determine the surrounding circumstances over which we have now no control, so as to get the very best results out of any locality of which it is capable of producing. We will thus be acting in concert with other associations, rapidly attain results which, acting singly, would require years to produce. Agriculturists long ago established experiment stations in many parts of the country, and the results have been gratifying, and I can see no reason why apiculturists should not follow their example. What is good in one locality may be worthless in another, and methods of management with one class of surroundings may work admirably, while the same methods pursued under different circumstances and other surroundings would produce certain disaster.

Experiments scientifically conducted and regularly reported at our conventions, should be commenced and continued until the races of bees, the honey-flora, and the methods of management in the respective latitudes best adapted to each of them, shall be uniform—because the best. Had I known 18 months ago what I now know, I would never have taken 90 colonies of Italians, and only 10 of Holy-Land bees, to the island of Cuba, for the Holy Lands have more than doubled the Italians both by increase and the amount of surplus honey taken; and I am credibly informed on authority based on years of practical experience with modern methods, that the Holy Lands can be made to produce an average yearly crop of surplus extracted honey of from 350 to 500 pounds per colony. Why this difference between these two races in Cuba and not here? Simply that the great four months' honey-flow of Cuba embraces the months of November, December, January and February, and the Italians, not being fall breeders, cannot be induced to fill their hives with young bees, but instead, the queen gradually lessens her laying until about the middle of November, when she almost entirely ceases, and the bees assume a condition of semi-torpor; while the Holy-Land queen keeps up a vigorous breeding, and her workers keep bringing in the honey (a sufficient supply for breeding purposes is always to be had in Cuba), so that by the commencement of the great harvest, the hive is crowded with the busy workers ready to store it as surplus. I mention my Cuban experience only as a simple instance of what might have been gained had I known the facts in the case as I now know them.

Further, if a whole convention were thus divided up into committees, each person would feel a responsibility resting on him, to discharge the duties imposed, in a creditable manner, and we should at once come into possession of a knowledge of the various departments of our profession based on the facts of careful experiment, and acting on the same, our business would soon cease to be regarded as one of luck or chance. Hitherto our conventions have traveled too much in ruts. Our programmes have been hastily gotten up and filled with the old subjects which have been discussed from year to year in a manner so nearly alike, that many of our most prominent honey-producers have ceased to attend because, as they declare, that aside from visiting and hand-shaking, and the making of some new acquaintances, nothing is gained.

As an illustration, take the subject of foul brood, which has been discussed in most of our conventions for many years, and yet hardly a new idea had been advanced, till within a very few months, Mr. Cheshire, of England has, as the result of long and careful experiment, aided by what he could find out by the experiments of others, probably discovered the true cause and certain cure of this dread malady, and thus conferred a blessing on all progressive bee-keepers throughout the world. Each member of the convention should know definitely what is expected of him, and then he should have plenty of time to experiment so as to reach intelligent conclusions before being called upon to report. This done, our future conventions will not be void of interest for the want of new ideas, and the results of our meeting cannot fail to be beneficial.

New York City.

For the American Bee Journal.

Des Moines Co., Iowa, Convention.

The Des Moines County Bee-Keepers' Association met in the Grand Jury Room in Burlington, Iowa, on April 28, 1885. The President, Geo. Bischoff called the meeting to order at 11 a. m. At the afternoon session the Treasurer's report was read and approved, and 12 members reported 344 colonies last fall, 208 this spring, and 6,680 pounds of honey as the total of their last season's crops. The election of officers resulted as follows: President, Geo. Bischoff, of Burlington; Vice-President, W. N. Smith, of Burlington; Secretary, John Nau, of Middletown; and Treasurer, S. J. McKinney, of Burlington.

Various subjects of importance were discussed, which made the meeting very interesting. It was then decided to hold the next annual meeting on the fourth Tuesday in April, 1886, in Burlington, Iowa, at 10 a. m.; also to have a special meeting in Burlington on the fourth Tuesday in August, 1885. John Nau, *Sec.*

Geo. Bischoff, *Pres.*

For the American Bee Journal.

Preparing Bees for Winter.

W. D. SMYSER.

I have read all the various plans of wintering bees, and I find all of them wanting in such a winter as the past. I will now give the plan of preparing bees for winter as practiced in this section, and which, I think, accounts for the terrible losses of bees. When people get their summer's work done they have no time to fix up their bees, for they must "go to town" every day, and when they get home, if asked what they were doing, they would reply, "O, nothing;" but they knew all about politics and what hogs were worth. I have asked them why they do not prepare their bees for winter, when they say, "O, it's too soon. This is only September, and we are too busy; we can't now. We are bound to go to a sale to-morrow, and there is lots of time yet to put up the bees."

They continue this until November, or until it begins to snow, then they commence in earnest to fix for winter. The first thing done is to make a calf-pen, and the farmer says: "Well, now boys, them last-spring calves must be sheltered. There is money in them." "How long will they have to be fed, pa?" says one of the boys. "O, not long; about five months. Now, them bees must have a few shucks stuffed around them, and a few old boards over them to turn water. I guess they have enough honey to winter on. The robbers are so bad I can't look." And so it goes on until March, and how are things then? The calves are about half dead, and the owner gets perhaps 50 cents apiece for their hides, after making 300 trips to feed them. How are the bees? They answer, "Well, our bees wintered bad; all dead." How were they fixed for winter? "O, they was well packed; they had too much honey-dew and pollen."

One-half of the bee-keepers in the country winter their bees on the above plan. Nine-tenths of the bees in this county (Johnson) are dead. I put up 13 colonies, and the rats and mice destroyed 2 of them. There is no more use in letting bees die than other farm stock. I winter my bees on the summer stands. To read of the slaughter of bees during the past winter seems simply awful; and then to read about the various causes to which bee-keepers attribute their losses, such as pollen, "bug-juice," honey-dew, freezing, starvation, etc., is amusing. When I get to reading, I think that all are trying to see who can beat. It reminds me of the little boy that went to set the old hen, and when he returned his mother asked him how many eggs he put under her. He replied that he had put 40 in the nest. "Why, Tony, she can't cover that many eggs." "Well, mammy, you ought to come and see her spread herself."

Hereafter, I will endeavor to describe my method of preparing bees for winter. They came through the winter of 1880-81 all right, and also the past winter. It entails no expense.

Nineveh,⊙ Ind.

For the American Bee Journal.

Method of Wintering and Results.

JOSHUA BULL, (27—22).

At the end of the season of 1884 I had 27 colonies in chaff hives to prepare for winter on the summer stands. How shall I prepare them? was a question of great interest to me. Believing that upward ventilation is in direct contrariety to the nature of the honey-bee, that being a point which they seem to strive most strenuously to guard against, as is plainly manifested by their efforts to seal every crack and crevice above them perfectly air-tight with propolis at the approach of cold weather, reason and propriety seem to dictate, that in order to secure the desired end with the best results, we should assist the bees in every possible way we can to consummate those plans and provisions which their instinct has inspired them to make for self-preservation; not rudely tear them away, destroying their industrious labors, and expose the little creatures to the discomfort of air-currents, which they seem so much to dread, yet it is desirable to allow the moisture to escape upwards as much as possible without any passage of air or loss of heat.

Therefore, in accordance with the above views, when preparing my bees for the past winter, after removing all combs which were not needed for them to cluster upon, moving up the division-board, and filling the vacant space back of it with dry chaff, the same cloth which had been used to cover the brood-nest during the summer being allowed to remain for winter, and over this four sheets of newspaper were placed and fitted down closely to the top of the lower story of the hive; and an inch or two of fine chaff was put on top of this and spread evenly around against the outside, so as to be sure to hold the edges of the paper down tight. Instead of a cushion, I use a box made just as large as can easily be set in and out of the upper story of the hive, 6 inches deep, with cotton cloth tacked on for a bottom; this is filled with chaff and set in on top of the paper, which completes the covering. The paper effectually stops all passage of air, and yet it absorbs the moisture, passes it up into the chaff, and thus it escapes. The entrances, 8x⅜ inches, were left open the full width, boards being leaned up against the fronts of the hives to keep the wind from blowing directly in. In January, when the mercury was ranging down among the thirties, for weeks at a time, and even to 40° below zero, I shoveled snow around the hives, first placing a stick in position, so that after the snow was banked around, by drawing out the stick carefully, it would leave a hole about 2 inches in diameter to admit fresh air to the entrance of the hive. This air-passage was carefully kept open all winter.

Some of my hives are made long enough to accommodate 2 colonies in summer, and a third one can be placed between them for wintering, an entrance being provided for that purpose. I had 5 hives containing 3 colonies each, one hive with 2, and 10 colonies, one in each hive. By way of experiment, I arranged one colony so as to have about 5 inches of vacant space below the combs, and one colony which I did not value very highly, was put upon combs which contained little or no honey, but whatever pollen they might happen to contain; then, this colony was fed for winter stores exclusively some early-gathered honey, or, as I suppose, the "so-called honey-dew," which was so sickening to the taste that we could not think of using it on the table; and I wanted to see if bees would live through the winter on that alone.

On Nov. 15, the bees had a good flight; on the next day cold weather came, and came to stay. After the middle of December it became very severe, ranging below zero much of the time. On Christmas morning it was down to 30° below. The mean temperature through the month of December, computed from the lowest point indicated by my thermometer as carefully noted each day, was 7° above; for the month of January, 7° below; and for the first 24 days of February, about 10° below zero. The coldest morning during that period was that of Jan. 22, when it was 40° below zero. The bees had their natural stores just as they had gathered them, except the one mentioned above, and one or two others which I feared might be short, and so I gave them a little syrup to make up the deficiency.

By examination from time to time, I found that the paper placed over the bees was fulfilling the desired purpose even better than I had anticipated, for all would feel dry and warm next to the bees, when sometimes the top of the chaff above would be thoroughly soaked or covered over with a crust of frost. They got no opportunity to fly until Feb. 27, when they had a good cleansing flight on that day and the next. Examination at this date showed that one colony had evidently smothered early in the winter, the entrance having been tightly closed with snow and ice. Five or 6 colonies had been, and still were, badly affected by diarrhea, and much reduced in numbers; the remaining 20 were in fine condition, and all, or all but one, had more or less brood. From this time until the middle of March, the weather was quite mild, young bees were hatching out all the time, and things looked very hopeful.

But a change was coming; March 17 opened with the mercury 19° below zero, and the wind blew a regular blizzard for about two days and nights, and from this time to March 23, the mercury ranged from 10° to 16° below zero. During this cold snap my bees seemed to suffer much more damage and loss than they had all the previous part of the winter. If I had closed tightly the entrances of all the hives at this time, it would, no doubt, have been much better; or if I had removed the combs which they could not occupy, from the weaker colonies, and contracted their brood-nests, the result might have been different. But this not being done, 2 of the diseased colonies succumbed to the cold winds and froze; 2 more have since dwindled away until one has become extinct, and as I wished to save the queen of the other, I disposed of it by putting the queen and a few bees that were left with her, upon a comb of brood placed in a cage made of wire-cloth, and hung it in a hive with a strong colony, according to Mr. G. M. Doolittle's plan for forming nuclei in cold weather. Thus my stock is reduced to 22 colonies, and some of those are rather weak, but I hope to get along now without further loss, as the weather is getting quite warm, the bees have been bringing in natural pollen for several days past, and things begin to look encouraging again.

The colony that had the vacant space below the combs is one of the best; the one that had nothing but honey-dew and pollen to subsist upon, also came through in excellent condition. Their combs, frames, and inside of the hive are just as clean to-day as they were last summer. I do not think that there has been half a pint of dead bees in or around their hive since last fall. If all of my colonies had come through the winter as nice and clean, and with as small a percentage of loss as did this one, I would not ask anything better. I know this does not accord very well with the oft-expressed opinion that honey-dew is the cause of the wholesale loss of bees during the past winter; but in my case it is not guess-work, but the result of a careful experiment. Those colonies which were packed three in one hive, did not do as well as those which were one in a hive. All my losses and all the serious cases of diarrhea, occurred among those where 2 or 3 colonies were in one hive.

I have another experiment which I wish to relate, as it may be of interest to some: On Oct. 29, 1884, I put a queen and about half a pint of bees into a box 12 inches long and 5¼x6½ inches, inside measure, containing 3 two-pound sections partly filled with comb and honey, which were placed in one end of the box, and kept in position by a glass partition, and held up from the bottom by ¼-inch strips placed under them, so the bees could pass from one part of the box to the other. One end of this box was formed of glass, the other end covered with wire-cloth. I could look into either end at any time and see something of what was going on inside. This was kept on a shelf in the pantry, which was in constant use, and exposed to the full light of day, and all the noise and stir of the house. The temperature was often up to 70°, sometimes 76°, and seldom if ever below 50°, during the winter. Some of the bees would come out nearly every day and buzz around awhile next to the wire-screen, and then retire. The section placed next to the glass-end of the box was mostly filled with white clover honey, but in the centre, at the upper part, was a darker colored spot about the size of a silver half-dollar, supposed to be honey-dew, which the bees broke into and consumed first of any. They reared a little brood, and the queen and some of the bees lived through until April 18, when I put them upon a comb of brood in a wire-cloth cage and placed them in a hive with another colony to form a nucleus.

Seymour, Wis.

For the American Bee Journal.

Bee-Keeper's Staff—Fronting Hives.

J. H. ANDRE.

A few years ago many of our scientific bee-keepers were making a practice of dividing colonies instead of letting them swarm naturally. Perhaps not one farmer in fifty ever had a colony divided, and many of our most successful bee-keepers have returned to the old way, and consequently must, at times, meet with much difficulty in hiving swarms, by their alighting on the trunks of trees or high up on the outward branches. Again, their favorite place will be on some valuable tree where it is almost impossible to get them without cutting the branches and spoiling the shape of the tree. Such was my experience until I made what I call a bee-keeper's staff, and then it was simply a pleasure.

To make the staff, use a piece of light timber 1¾ inches square, and plane one end 18 inches in length, and also make it eight-sided. The handle may be rounded 1½ inches in diameter, and any length wanted. Probably two staffs will be handier—one 6 feet and one 12 feet in length. Now take strips of tough wood ¼ of an inch thick, five-eighths of an inch wide, and 12 inches long, and begin at the end of the staff and nail on a strip crosswise through the centre of the strip, and one on the opposite side; turn the staff one-eighth of the way around and nail on another and one opposite. It will take from 16 to 18 pairs of cross-pieces about one inch apart from centre to centre, each one being nailed with three small nails to hold it well in place. If the staff is stained (not painted) a color that resembles a natural bee-color, a swarm will cluster on it sooner. The strips that are nailed on in the centre should be 15 inches in length, and gradually shortened each way to one foot at each end.

When a swarm begins to cluster, hold the staff under them, close to the object upon which they are alighting, and nearly all the bees will alight on the staff, and by moving it aside a little and agitating the remaining ones, all will be secured, and may be carried any distance to the hive and none will fall from the staff, which will save any extra trouble of carrying hives, and the flying back and forth of bees for a day or two, where one is hived and left to stand for one day and removed on the morning of the next. With such a staff a lady or an elderly person may hive a swarm easily even in a place where it would be difficult for two men without the staff; and as soon as the bees cluster, or a part of them (no need to wait for all, the rest will follow if you go slow), they may be hived in one-half, and in some instances one-quarter of the time; and there is not so much danger of two or more swarms uniting.

Hives should front east, southeast or south, east being always preferred if possible, on account of the morning sun warming the hives; later in the day the atmosphere becomes warm, and hives facing west (which is the worst direction of all) get the burning rays of the sun, when it is a damage rather than a benefit. If one has but a small plot of ground, and the hives are crowded, then it is best to vary the frontage, as the bees are thrown too much together, and are hindered somewhat in working. There is one other thing to be taken into consideration: It is hard work for laden bees to enter a hive with the wind, and hives should be set somewhat to conform with this in particular. Bees enter a hive best head against the wind, as they are not so liable to take a tumble and mix up in heaps as they would in entering with the wind, when heavily laden and cannot control themselves. But as in most localities the prevailing winds are from the southwest to northwest, a frontage from south to east will be all that is required. For smoker fuel the fungous excresences growing on decaying logs and trees in the woods, well dried and cut in pieces the size of a hickory nut, burn well, and last a long time. If, however, bees are at all inclined to be vicious, take cheap smoking tobacco, perhaps the refuse stems would do, but care should be taken not to smoke them too much, as it soon puts a quietus on the bees, and too much smoke might make the honey taste, if wanted for use in a few days. I scarcely ever use anything but tobacco, and I can quiet the very worst colony in 10 seconds.

Lockwood, N. Y.

For the American Bee Journal.

Marshall Co., Iowa, Convention.

The Marshall County Bee-Keepers' Association met at the Court House in Marshalltown, Iowa, on April 18, 1885, with the President, Mr. J. Swift, in the chair.

At the afternoon session the minutes of the previous meeting, as published in the BEE JOURNAL, were read and approved, and five new members joined the Association. The election of officers for the ensuing year resulted as follows: President, O. B. Barrows, of Marshalltown; Vice-President, Jos. Swift, of State Centre; Secretary, J. W. Sanders, of Marshalltown; Treasurer, G. W. Calhoun, of Marshalltown.

The subject of "Spring management of bees" was then introduced by Mr. Cœper. He allows small entrances, keeps all warm during early spring, and uses artificial pollen and other feed when necessary. When the honey-season begins he gives more room in the hives. He keeps all drone-comb out of the brood-chambers of all colonies except one selected colony, and also one colony is selected for the purpose of rearing queens; both the drone-rearing and the queen-rearing colonies are selected for their Italian purity, and for a combination of other good qualities. When ready to rear queens, he removes the queen from the particular colony, when the colony starts a number of queen-cells, which he uses for starting new colonies. He allows colonies plenty of room, and controls increase by the nuclei system of swarming. By this means he gets all his young queens from his best stock. He prefers the Italians for all purposes, but owing to other strains around his apiary, he finds it hard to keep them pure. Out of 18 queens reared during the past season only 9 were purely mated; the others produced hybrids.

Mr. Barrows made some remarks on the necessary spring supplies for the apiary. He put out his bees on March 11, but thought perhaps he had put them out too soon, as some had weakened since being put out. They did not carry in rye pollen until March 29. Mr. G. W. Keeler put his bees out on March 28, and Mr. Haskins put his out on April 6.

President Swift said that he began in 1883 with 4 colonies, simply as a recreation, and for the interest that he took in the study of bee-keeping. In 1884 he began with 7 colonies, having lost none during the previous winter, increased his number to 21, and took 300 pounds of honey which he sold at 15 and 20 cents per pound. During the past winter he lost 8 colonies, and thought that 75 per cent. of the bees in his vicinity, that were not properly cared for, were dead.

In regard to wintering bees in cellars containing vegetables, Mr. Barrows said that it did no harm; but keep the cellar warm enough—about 45° above zero. He thought that 90 per cent. of the colonies left on the summer stands during the past winter, were dead.

Mrs. Van Meter said that she put in 21 colonies last fall, and had lost 2 since putting them out. Mr. Cover put in 56 colonies, and took out 54 alive. He does all he can to get all the colonies strong by the time the honey harvest begins.

The Secretary, in speaking of the spring care of bees, showed the great need of the division-board for contracting the size of the brood-nest to suit the size of the colony; and he would even up weak colonies by taking frames from the strong ones, and get all as strong as possible by the time of the white clover harvest. He also spoke of the advantage of having uniformity in frames and hives, as it aided materially in caring for the bees properly.

In reference to drone-comb in the brood-frames, and keeping empty combs from the moth, Mr. Cœper said: Keep all the drone-comb cut out, and place such frames in the middle of the brood-nest, when worker-comb will always be secured; if not, cut it out again. If the combs have become old, cut all out and let the bees build new ones, or put in comb foundation, and replace them in the centre of the brood-nest, when the object will be accomplished. To keep empty combs from the moth, store them in a dry place, and fumigate them with sulphur smoke two or three times, keeping them enclosed so moths cannot get at them.

The Secretary said that he had successfully fumigated empty combs by rolling up some sulphur in a piece of cotton cloth, and using a bee-smoker in fumigating them.

The subject, "Care and marketing of honey," was then discussed.

Mr. Cover thought that we needed some responsible party to handle our honey for us; but Messrs. Keeler, Moore and others thought best to sell it direct to the consumers, as much as possible, and not to run each other in prices. They also advised putting up honey in good shape for the market, and not try to compete with the honey that is brought to market in a broken-up mess in jars, or in large boxes and tubs. Nearly all consumers would gladly pay more for comb honey in one and two-pound sections than for that which is broken or slovenly prepared for market.

In caring for comb honey, Mr. Keeler said that he keeps it in a warm, dry place; and the extracted honey he first puts into barrels which have parts of the heads removed, and covers the openings with cloths, which allows the honey to ripen well by evaporation. It is then drawn from the barrels and put into any kind of vessels desired. He does not endeavor to keep it from granulating.

As a full report could not be obtained, the Secretary requested that all the members forward to him their reports stating the number of colonies last fall and their present number, which will then be sent for publication. He also stated that the Fair premium-list would be the same this year as last, and hoped that all would endeavor to make a good exhibit.

The subject for the next meeting is, "Fall care of bees." Adjourned to meet on Saturday, July 18, 1885.

J. W. SANDERS, Sec.
O. B. BARROWS, Pres.

For the American Bee Journal.

Is it Necessary to Wire Frames?

O. CLUTE.

For the last few years we have heard a good deal about wired frames, and quite a number of bee-keepers are using them. In their favor two claims are made—that the combs in wired frames are stronger than in unwired frames, and that the foundation in such wired frames does not sag so that some of the cells become drone-cells. Perhaps a bit of experience may be of service on these two points.

Strong combs, that is, combs strong enough to endure any strain that may be expected to come upon them, are desirable. They should be strong enough to bear up the weight of the brood even in the heat of summer; they should be strong enough to be used safely in the extractor; and they should be strong enough to be shipped by express in case one wants to ship bees. This is all the strength that they need; any strength above this is quite superfluous, and involves a useless expense. The wise bee-keeper will labor to have his combs strong enough; he will not care to have them needlessly strong.

I work my apiary entirely for extracted honey, and in the course of the summer I extract from nearly every comb in it. I keep my hives standing in the sun, and they have no shade of any kind even in midsummer. I ship bees in large quantities, and to long distances, and if anybody needs strong combs, I do; if anybody has trouble with unwired frames, I ought to have trouble. I have never had a wired frame in my apiary, and as to combs melting down in the sun, it never happens. For the last three years there has not been a comb that has melted down. In extracting it is very seldom indeed that a comb is broken. In one season I shipped by express 140 colonies of bees, and did not have a particle of trouble with one of them. I have every year, for the last four years, shipped from 40 to 140 colonies of bees by express, and have never had a comb break down.

So far as my experience goes as to the strength of combs, wired frames are needless. The expense of wiring them is a useless expense. Somebody in his exuberant praise of wired frames, said that he could throw the combs across the honey-house without breaking them. But why should anybody want to throw combs across the honey-house? Another said that he could dance on the frames without breaking them. Again, why should anybody want to dance on the frames?

The other claim in favor of wired frames is, that foundation in such frames do not sag or stretch, and hence that no cells become enlarged into drone-cells. For seven years I have had all my combs built on full sheets of foundation, using several hundred pounds of foundation each year, and I have now in my apiary about 3,000 combs built on foundation; of the combs built on foundation there are very few indeed that have any drone-cells—not enough to do any harm at all. By a very little care in the use of combs, drone-cells are kept out of every colony that ought not to rear drones.

If it were necessary for me to wire frames in order to prevent the appearance of drone-cells, or in order to make the combs strong enough to bear the strain that naturally comes on them, I should wire them. My experience proves that for me it is not necessary, and I therefore decline to wire them.

Iowa City, Iowa.

* * *

Farmers' Home.

The Little "Busy Bees."

EDWARD GRIMES.

Ever work the busy bees,
In the fields of clover;
Toiling from the morning hours
Till the day is over;
Oft they sip the honey pure
From the snow-white chalice:
Then they linger for awhile
In a lily palace.

In a little yellow cup,
With the greatest angle,
There they put each honey-drop,
Shining like a spangle;
Then they close each tiny cell
Till the days are colder,
For the little bees to eat,
While they're growing older.

Every lovely day they fly
Till the summer's over,
Either in a butter-cup
Or upon the clover;
Either in a nodding-tree
On a mellow apple,
Or they rest upon a bud,
Opening white and dapple.

* * *

For the American Bee Journal.

Queens Conveying Foul Brood.

W. H. STEWART.

Those engaged in apiculture are, as in other branches of business, only successful when their energetic and well-directed labors bring success. The pathway of progress is ever beset by obstacles which must be overcome ere we reach the goal of success that lies beyond. The overcoming of many serious obstacles is what has elevated bee-keeping of the present day, far above that of 40 years ago. There are yet, however, obstacles which must be overcome, or disaster will come after all the advancement we have made.

How to dispose of our honey at remunerative prices; how to successfully winter our bees in our Northern climate; and how to preserve the general health of our bees at all times or seasons of the year, are questions that should command the attention and enlist the labors of every bee-keeper. In giving my views on the last of these important questions, I am well aware that I shall incur the displeasure of many bee-keepers; however, I will endeavor to meet what objections may be raised.

In reading the many books and periodicals published in the interest of apiculture, we notice a general fear in regard to that disease often found among bees—improperly called foul brood—which often sweeps away whole apiaries, leaving in its wake nothing but the dead and rottenness; not only so, but in many instances it strips the poor bee-keeper of his only means of support. Now, it is quite clear that two things must be done, in order to secure safety; viz: First, we must be able to cure or weed out the disease where it now exists; and second, we must prevent its being spread in such a manner as to reach those colonies which are, as yet, in a healthy condition.

Mr. Cheshire, on pages 644 and 740 of the BEE JOURNAL for 1884, seems to feel quite certain that by superseding the diseased queen, and properly using phenol, all colonies suffering from the dreadful disease may be effectually cured. If this be true, and Mr. C. or some other expert could have the management of all the diseased colonies, and it were not allowed to spread, then we might reasonably expect to "stamp it out;" but here is where the trouble comes: There are many who keep their bees in a sort of "slipshod" way, and when the bees become diseased, they let them fight it out in their own way as best they can, and in warmer climates a disease may linger for years. From such apiaries the disease may be spread to others which are more carefully managed; and as many of these apiaries are used for the production of queens for the market, thousands of young queens may become fertilized by diseased drones, as proven by Mr. C's discovery; and as such queens begin to lay they are pronounced ready for the market. As the apiarist has no means of knowing whether the germs of destruction are in the queens' bodies, he mails them to his customers, and foul brood is scattered in every direction; and a single queen introduced to a colony, would soon spread death and destruction throughout a whole apiarian district. All reasonable bee-keepers will readily see that just so long as the trade in queens and nuclei is kept up, just so long will foul brood be found cropping out here and there wherever bees are found.

It is true that many queen-breeders are honest, and doing all they can to improve the stock of bees; yet it is also just as true that many bee-keepers are like men in other business—making financial success paramount to all other considerations. Again, it is true that it makes but little difference whether we purchase a queen from a careful or from a careless dealer. Mr. C. has proven that no dealer in queens can know positively that all the queens which he sells are free from the germs of foul brood. Only last year we read in the BEE JOURNAL that foul brood had been shipped, and it turned out that both parties may have been innocent.

What are we to do? Abandon the business and get out as nearly whole as we can? or agree on some plan to protect the apiaries that are yet in a healthy condition? I propose that we continue in the business, and that we purchase no bees or queens from abroad, and in every proper manner discontinue the shipping of bees from place to place by bee-merchants, and that we require that the carrying of queens in the mails be discontinued by law. We have often been told that we would be just as well off to breed our own queens, as to send away for them. We could easily try the experiment of receiving no bees from abroad for five years, and where the disease is found to exist, cure it if possible.

Some have proposed that laws be enacted that would authorize certain persons to visit all apiaries and examine all the colonies to ascertain whether foul brood is present. Let us suppose that a committee had thus found foul brood in one apiary, and had handled it while disposing of it, and then goes on twenty miles and reaches my place; they inform me of their business, and what they had just been doing; do you suppose that I would allow them to begin to overhaul my colonies? Not much; I would not allow them to remain in my house or on my premises for a moment; and I would resort to any lawful means to get them out of the community as soon as possible. All reasonable bee-keepers would justify me when they once understood the nature of the case. Such committees would only be another vehicle for the spreading of the disease.

Mr. Doolittle, on page 245, seems to partially quiet his fears by a kind of an uncertainty whether Mr. Cheshire has been treating the same disease of bees that is known here as "American foul brood." His article leads to some important questions: 1. Was not Mr. D. as liable to labor under a mistake in regard to the real foul brood as was Mr. Cheshire? 2. Does he know that the spores of the disease do never adhere to the feet or bodies of the bees? 3. If the spores carried on the bees, or in the honey that the bees carried with them when driven from the filthy hive to the new one, would die and never develop the disease in the new hive, then why burn the old hive? Why not wash and paint it, and conclude that the spores left behind were just as harmless as those carried into the new hive?

If I understand the many bee-books that I have read, and which are written by the most able and experienced bee-masters, the spores of the fungus are carried in many ways from hive to hive, and also the most severe freezing does not kill them, but if in after-years swarms are put into the old hives which once contained foul brood, the germs would develop and destroy the new colony. If all the books and masters are in the wrong, and Mr. D. is right in his method of curing the real foul brood, then it follows that it is all nonsense to burn the infected hives, and that we need have but little fears of foul brood that can be so easily cured.

We have now come to a crisis. If Mr. Cheshire knows foul brood, then the queen-traffic must stop, or disaster will be the result. If he is handling a different disease that is quite or nearly as bad as American foul brood, then the queen-traffic must stop, or we will soon have it in America—yea, all over the world—and disaster comes. Shall we rush heedlessly on, or hault, and acquaint ourselves with the uncertain ground that lies just before us?

Orion, ♀ Wis.

[It may be well to ascertain Mr. Frank Cheshire's views on this subject, and we will quote the following article from him in answer to some questions on the same subject in the *British Bee Journal* for April 15, 1885:

It is not more than ten months since I started those investigations which have scattered almost every previously held notion respecting foul brood, to the winds, and it would be unpardonable vanity to suppose that the whole question has as yet been exhausted.

That queens can and do sometimes bring disease to the colonies into which they are inserted, I have put altogether beyond question; and this fact, although perhaps at first unwelcome to dealers, is, after all, an addition to our knowledge, which tends directly to the advantage not only of the bee-keeper, but the dealer himself, since the interests of the two, when clearly understood, are found to be identical. No caution—because no caution was considered necessary in sending out queens—has, no doubt, often been a fruitful cause of calamity by spreading disease, and so many have in disgust given up the hobby. If dealers forewarned now conscientiously, this can all be avoided, and one of the occasions of disappointment and vexation eliminated.

As to whether queens reared from a diseased mother would be free from the disease, I can only answer with reserve. From such a queen, I should imagine it would be extremely unlikely that any progeny would be actually healthy. She was riddled by the disease in every part, and since I have actually witnessed the pest at work in unlaid eggs, few of hers could be supposed to be free. This malady, although quickly killing the grubs, on account of the extreme softness of their tissues, which allows the *bacilli* to travel through and through them, does not seem to rapidly make an end of the adult bees; and I have found the disease confined to one, and vary in three cases, and confined to the spermatheca in four, indicating that the queen in these cases was born healthy, but had contracted disease at her mating.

Another queen was diseased in the liver, and in the liver only, as far as I could find. This clearly proves that in the adult insect the infection may be localized, and assume a chronic instead of an acute form, reminding of a *bacillus* disease to which our poor flesh is heir; viz: consumption, which will remain in abeyance during conditions making for health, and will then, when the vitality is lowered, break forth in one lung, or in the mesentery, or brain; and then more or less quickly wreck the whole organization of the body. It is, therefore, quite possible that a queen may be long diseased, and that her progeny may not be affected until her egg-bearing organs are reached. If this view be correct, and I only feel that the evidence is not as yet sufficient in amount to warrant a very positive assertion, then such a question as the one now in hand admits of no categorical answer. The condition of the queen at the time must be fully known before a definite yes or no can be given, but I would strongly urge the desirability of breeding only from queens that have given the very highest results. Never, on any account, allow a cell from a weakling to mature.

For editorial comment on this question, the reader is referred to the first page of this JOURNAL.—ED.]

SELECTIONS FROM OUR LETTER BOX

Every Promise of a Good Season.—G. W. Demaree. Christiansburg, ♂ Ky., on May 7, 1885, writes thus:

I have to report severe losses of bees in this part of Kentucky. Starvation was the sole cause. Our bees are nearly, if not quite a month behind. Fruit-bloom is going without much benefit to the bees. Dandelion is helping the bees along now, and soon the famous black locust will give the bees a busy harvest. Contrary to my, fears, the white clover is uninjured by the cold, dry winter. We have every promise now of a good honey-season; but our colonies are not strong enough to make the best of the situation.

What Ails the Bees?—C. K. Schwing, Baton Rouge, ⊙ La., on May 5, 1885, writes thus:

My bees seem to be sick; they swell up and crawl about on the ground in front of their hives until they die. I find a yellow mass in their abdomens, and it smells sour. What is the matter with them? They have their hives full of new honey, and we have had good weather all spring.

[It is evidently diarrhea, but with "good honey in the hives," and "fine weather all the spring," it seems strange for bees in Louisiana to be afflicted with diarrhea.—ED.]

Purifying and Testing Beeswax, etc.—7—Paul Scheuring, (75—68), Nicollet, ○+ Wis., on May 1, 1885, writes as follows:

As near as I can find out, about ½ of the bees are dead in this section. I commenced the season of 1884 with 36 colonies, increased them to 75, by natural swarming, and obtained 2,200 pounds of comb honey in sections, and nearly 2,800 pounds of extracted. I fed one barrel of granulated sugar for winter stores. I lost 7 colonies during the past winter—2 from diarrhea, 1 suffocated, and 4 became queenless in the winter, so I united them with other colonies this spring. I may lose 1 or 2 more by spring dwindling. I had 5 colonies in the cellar and 70 outside packed with sawdust. I packed them on Oct. 1, and as the sawdust was green this gave it time to dry before winter, at least that next to the hive. I had a cake of beeswax which had tallow or grease mixed with it. Is there any way of separating it? A druggist told me how to tell when there is grease mixed with wax. It is as follows: Scrape a smooth surface on the cake of wax; if it is pure one can write on it with a pen and ink; if it has grease in it, it will act the same as if trying to write on greasy paper. This is a simple test, and may save some other bee-keeper from being swindled the way I was.

[By request, Messrs. Dadant & Son reply as follows: "We do not know of any way to remove or separate tallow from wax, and do not think that there is any. Such wax is only fit to be used for grafting-wax or candles. There is a very simple and prompt way to detect tallow in wax at ordinary temperature; by scratching wax with the finger-nail. If pure, the wax will shine; but mixed with tallow, it will have a dull-looking color. Besides, it has a greasy touch at all times. In breaking a cake of tallow wax, the smell of lard or grease can readily be detected in a fresh break."—ED.]

Brood Chilled—Cold Weather.—J. C. Mishler, (9), Ligonier, ♂ Ind., on May 4th, 1885, writes us the following:

There is a frost nearly every morning, on May 3 ice formed nearly ¼ of an inch thick, and it was so cool that the bees flew only about two hours in the middle of the day. Bees were dwindling away very fast, so that colonies that were pretty strong in the middle of April, and that had brood started in 2 to 4 frames, are all dwindled away now, or are not strong enough to cover the brood during these cool nights. To-day I found some chilled brood in some of the hives. The past was the hardest winter on bees that I ever experienced. The way I had my bees prepared for winter was as follows: They were on the summer stands on from 5 to 8 frames, and holes through the combs or small sticks of wood on top of the frames for passage-ways. I used division-boards on both sides of brood-chambers, cotton cushions on top of the frames, and then I filled the upper story with clover chaff, and also on the sides of the division-boards, and yet I lost heavily. I think that the cause was long confinement and the poor honey which they gathered during last August and September. The honey-dew, or "bug-juice" as some call it, which they also gathered last fall, together with long confinement, I think gave them the diarrhea, and thus they died with lots of honey in the hive. Unprotected colonies are all dead. There are about 50 colonies left out of 450 in one township.

Wind-Breaks—Bee-Passages.—Wm. M. Ross, Lebanon, ♀ Ills., on May 1, 1885, says :

Although the winter just passed has been unusually severe, and a great many have lost heavily, some even all their bees from one cause or another, my losses are very light, being only 2 colonies out of 80. My bees were all wintered on the summer stands in single-walled hives with natural stores—pollen and all—except one colony which had frames of honey taken from an upper story which contained little or no pollen. This colony fared no better than the rest. I never had bees in better condition in the spring than they were this spring. I think a good wind-break is necessary in such winters as the one we have just passed through ; and above all have the hive so arranged that the bees can pass over the tops of the frames, for this will often keep them from starving with plenty of honey in the hive, as in very cold weather the heat from the cluster passes upward, and the bees are enabled to pass from one comb to another, where, if they had to pass under the frames, they would be chilled as soon as they left the cluster. Bees are gathering honey from the fruit-bloom to-day.

Sugar Syrup for Winter Stores.—W. M. Carr, Bradford, ♀ N. H., on May 1, 1885, writes thus :

In the spring of 1884 I obtained 2 colonies of pure Italians, and increased them to 6 colonies by division. In the fall I extracted the honey and fed sugar syrup to 4 colonies, and left one of these, and one with full frames of honey, packed in chaff on the summer stands. I put 3 colonies having syrup stores, and one with fall honey, into the cellar under my house. The 4 colonies that had sugar syrup came through in good condition with very few dead bees ; both of the colonies that had honey died, and the combs are badly soiled with diarrhetic excreta.

Heavy Losses of Bees.—11—R. C. Aiken, Shambaugh, ♀ Iowa, on April 30, 1885, writes as follows :

The winter of 1880–81 was a very severe one, but during the past winter, although not quite so long or severe as that of 1880-81, the loss of bees has been much greater in this part of the country. I have been gathering statistics with the following results : Reported in this county (Page) last fall 700 colonies ; yet living 175. This represents, perhaps, not more than one-half or two-thirds of the bees in the county. One bee-man who had 110 colonies last fall, and who wintered about one-half of them in a cellar, saved a little over one-half of his number ; about 90 per cent. of the balance were wintered without protection. Taking the county over, I am satisfied that there is not more than 10 per cent. of the bees now living. Cellar wintering has proven the best by about 50 per cent. The winter of 1880-81 was one of steady cold from November to April (the bees having no flight for about 5 or 6 months), and with a great amount of snow, but with an average temperature somewhat above that of the past winter. Last winter set in about Dec. 1, and was noted for spells of intense cold with one thaw every moon, and with spring opening in March. We did not have the amount of snow in this part of the country last winter that was had in other parts. The following is a comparative statement of the condition of the bees for the two winters : In the fall of 1880, the colonies were strong, they had plenty of fall honey, it was steady, long-continued cold, no flights, and diarrhea, with desertions in the spring. In the fall of 1884 the colonies were weak in numbers and honey ; they had a flight about once in every four weeks. By midwinter one-half had starved to death, and by February there was much breeding, diarrhea and starvation with some freezing, resulting from intense cold following a few days of warm weather. In March and April there was dwindling and starvation. The loss for 1880-81 was from one-half to two-thirds of the bees ; loss for 1884-85, three-fourths to nine-tenths. Deductions : With plenty of stores and an even temperature, if not too low, is best. Cellar wintering is better than out-doors. My own report for the season of 1884 is, no honey taken. It was the poorest honey season in ten years. I increased my number of colonies nearly one-half. My number, last fall, was 80 ; now, 11. Out of 425 colonies reported for Madison county, only 14 are left. One apiary consisted of 200 colonies, now nothing is left ; another of 190 colonies fared the same.

A Southern Honey-Plant. — Harry W. Mitchell, Hawk's Park,⊙ Fla., writes thus about a Southern honey-plant :

I send you a small branch of a plant as I wish to know its name. It is the best honey-producer we have here during March and April, with the possible exception of the orange. I cannot find out the name of it from any of the residents here ; some claim that it is a species of myrtle, which I hardly believe.

[The plant is "Kalmia augustifolia." I am glad to hear such high praise of this beautiful plant, which Prof. Agassiz styled the gem of the vegetable world. As will be seen on page 285 of my Manual, a near relative has been given a very questionable reputation. I have long wondered whether any of the mountain laurels produced poisonous honey.—A. J. Cook.]

Cold, Rainy Spring. — 13 — C. M. Kingsley, Elvason,+o Ills., on May 1, 1885, writes :

The sun is shining this morning, and what bees are left are beginning to fly. The winter was so hard on them, and the spring has been so cold and rainy, that I feared I should lose all of my bees, but I still have 20 colonies left, which I think will survive.

Cleansing Spotted Combs.—I. N. Bayles, Urbanna,o+ Iowa, writes as follows :

My loss during the past winter was 17 colonies out of 55 ; the most of them having died with the diarrhea, and some that were quite strong when put out of the cellar, have dwindled badly. The weather has been so cold that they could not gather pollen at the time they needed it. Is there any way to clean combs that the bees have spotted ? I do not think it a good plan to use them if they can be cleaned, as the bees will not remove all of the spots from them ; but they will store honey in them to winter on, and then perhaps die during the next winter. As far as I have heard, the loss of bees in this part of the country is about one-third. Last fall there were 734 colonies of bees, and the total product of honey and beeswax for the past season was 14,799 pounds of the former and 170 pounds of the latter.

[That which the bees leave on the combs, after cleansing and using them, will not be injurious to the health of the bees—being only stains which would be difficult to remove even if attempted by the apiarist.—Ed.]

Pollen and Larval Bees.—Prof. A. J. Cook, Agricultural College, ♀ Mich., writes thus :

I wish to express my hearty endorsement of the able article from Mr. J. Rutherford, on page 232. The article criticizes two points in my Manual. The first point criticized I leave wholly to the readers, as I have no desire to change the sentence in the Manual. The point to be enforced, is that the larval state is the one of growth and nutrition, par-excellence ; and this is true of bees, as of all insects. I had no desire to go into details. The next sentence is surely worthy of criticism, and will be changed in the next edition, thanks to Mr. R. I never thought that pollen was direct food of larval bees, although the sentence so puts it. Pollen is never given as food to bees directly, but is necessary either through secretion or digestion on the part of the bees, to furnish the pabulum for the larvæ. When I penned the sentence, I had no thought that pollen, as pollen, was fed to bees ; I meant to show that it was necessary to brood-rearing. Whether the jelly fed to young bees is wholly a secretion, or is in part digested pollen or pollen and honey, is not yet shown. True, some of the savants of Germany hold that it is wholly a secretion ; yet they are not positive.

Black Drones and Italian Queens.—D. L. Shapley, Randallsville,⊙ N. Y., writes thus on the above subject :

I have been told that drones from a pure Italian queen that was fertilized by a black drone were just as pure to breed from as were those that were reared from an Italian queen that was purely mated. I have not had experience sufficient to know, and I wish to keep my colonies as pure as I can. I have had good success, I think, for I have lost only 2 colonies during the past two years, while others around me have sometimes lost nearly all of theirs.

1. I have a pure Italian queen that was fertilized by a black drone ; will a queen fertilized by a drone reared from such a queen produce pure Italian bees ?

2. I have a quantity of foundation made one year ago ; will bees work on it as well as on foundation made this season ? Will it pay to have it melted and made over ?

[1. No.

2. It is not necessary to melt up old foundation. Dip the sheets in hot water (say from 100 to 110 Fahr.) ; and then keep it in a warm room till needed. The bees will accept it just as readily as newly-made foundation.—Ed.]

Great Losses of Bees.—James Ronian, Villisca, ♀ Iowa, on April 30, 1885, writes :

Over three-fourths of the bees in south-western Iowa are dead. I had 41 colonies that hibernated for good ; one of my neighbors put up 90 colonies last fall, and now he has 2 left. Bee-keepers with 10 to 15 colonies have lost all. There are a lot of long-faced bee-keepers in this part of the country. What bees are alive are doing well. They died in cellars as well as on the summer stands. Diarrhea was the cause.

Those Ventilation Reports.—James Heddon, Dowagiac, ♀ Mich., writes thus concerning them :

I am receiving many valuable reports on ventilation, but what I had reference to, and most want, is regarding the smallest amount of ventilation given in winter repositories. I wish that bee-keepers would respond to that question as soon as their convenience would admit.

Bees in Good Condition.—Charlie W. Bradish, Greig,♂ N. Y., on May 1, 1885, writes as follows:

Last fall I put into the cellar 93 colonies of bees, and I have lost 2 colonies and 1 nucleus; the rest are in good condition. I put them on the summer stands the last week in April. My bees are a cross between Italians and German brown bees: they winter better than pure Italians. There has been a great loss of bees in this county, among box hive bee-keepers, who will likely give up the business.

Colonies Leaving their Hives.—Henry Kohnadel, Fair Haven,⟜ Ills., on April 27, 1885, writes thus:

Last fall I placed 20 colonies of bees in a house prepared for the purpose, and this spring I took out 19 colonies in good condition, one having the diarrhea. My bees were doing well until yesterday, when 3 colonies came out of their hives as if they were swarming, and went in with other colonies, leaving plenty of honey and young brood. This is something I have never heard of before. 1. What was the cause of their doing so? 2. What is best to do with the honey and combs in the vacated hives? Can I save it and put other bees in these hives when I have swarms?

[1. Something distasteful to the bees caused them to leave the hive; it would be difficult to determine what that was, unless we were on the spot and could get some clue to it.

2. All you can do is to give the frames of brood and honey to weak colonies, and use the hives for swarms, or when dividing for increase. The empty combs should be kept in a tight box and fumigated with sulphur occasionally to keep the moth from destroying them.—Ed.]

Expecting a Good Season.—Wm. Anderson, Sherman,⊸ Mo., on May 5, 1885, says:

My bees are not doing as well as they were two weeks ago. The weather is very cool, and keeps everything back. Very few bees are left in this neighborhood, most of them having frozen or starved. I am looking for a good yield of honey this year, as there was very little honey gathered from wild flowers last season. Last year my honey was mostly from buckwheat and white clover, but all of the late honey was from buckwheat, as dry weather set in and caused everything to dry up, and thus it cut short the fall crop of honey.

Backward Spring.—H. O. McElhany, Vinton,⊸ Iowa, on May 2, 1885, writes:

The loss of bees has been about one-half in some localities here, and not so much in others. The spring is backward, and a good many bee-keepers have lost from spring dwindling. Bees are now gathering pollen from box-elder and elm.

Report, from O. C. Stickles, Canton,♂ N. Y., on May 2, 1885:

On Nov. 15, 1884, I put 49 colonies of bees into the cellar, and on May 1, 1885, I took out 44 colonies in good condition, 5 of the original number having starved. My cellar has no ventilation, except what is given by a window, and I think that is quite sufficient. I have never lost a colony in the cellar, when the bees had plenty of honey to winter on, unless a colony became queenless.

Colonies Strong and Breeding.—A. E. Manum, Bristol,⟜ Vt., on May 4, 1885, writes thus:

My bees have wintered well, considering the severity of the past winter. My loss is 4 per cent., caused by starvation, mice and queenlessness. There was no diarrhea among them. The balance are very strong, and are breeding rapidly; I never had bees any stronger at this season of the year. I hear of great losses around here among the box-hive bee-keepers.

Report, from B. E. Foster, Utica,⊙ N. Y., on May 4, 1885:

On Nov. 28, 1884, I put 21 colonies into winter quarters, and I removed them on April 18, 1885, there being left 17 colonies as good as any in this State. I do not want much honey or many bees in the hives when put up for winter, and let them have all the pollen they store. Of the 4 colonies lost, 1 was queenless, and 1 was in a box-hive, so I did not know whether it had a queen or not, but the other 2 were the best in the whole lot—strong in bees, and had plenty of honey—and they had the diarrhea. If I have a good bee-house, and the hives contain a few bees, and just enough honey to bring them through, and if each colony has a good queen, I have no fears of winter, at least such has been my experience.

Using Combs from Depopulated Hives.—John Yoder, Springfield, Ont., on April 28, 1885, writes thus:

The past has been a very hard winter on bees. All the small bee-keepers have lost nearly all, and the larger bee-keepers at least half of their bees. I have lost 43 colonies out of 90, and consequently I have on hand all their combs (364), which have more or less honey in them, and all are more of less soiled, as the bees died of diarrhea. I would like to have the following questions answered: 1. What is the best and quickest way of getting my empty combs occupied? 2. Would it pay to buy untested queens at swarming time, and put them into the old hives when a swarm issues? As my bees are blacks, would the above be a good way to improve my stock? 3. How can I best clean the old combs, or if scraped as clean as possible, will the bees readily accept them? I have left from last year 300 nice combs (in all over 600), and, of course, I want to increase my number of colonies, but not at the expense of honey.

[1. Give the queens plenty of room for eggs, by using the empty combs, and then divide the colonies as soon as they become populous enough.

2. Yes; if you do not care for pure stock.

3. The bees will clean the combs, if given a few at a time, better and cheaper than you can do it.—Ed.]

Still Cold and Snowing.—L. Reed, Orono,⊙ Mich., on May 3, 1885, reports thus:

On April 6, my bees had been in the cellar for 147 days, when I removed them for a flight. I returned them to the cellar after having their flight, and again put them out on April 25, and they soon began to carry in pollen. I lost 6 colonies out of 34, 4 having starved, and 2 were queenless; the rest are in good condition, strong in bees, but light in stores. I am now feeding them, and shall continue it during this month. The past winter was the coldest I have ever seen, and we are having a backward spring; to-day the ground is white with snow, and it is still snowing. Although we have had some warm days, yet this morning I covered up my hives with blankets and old carpets so as to keep the bees as warm as possible. It froze quite hard last night. I am very well satisfied with my success in wintering my bees, considering the hard winter. The most of the bees in this locality are dead.

Honey and Beeswax Market.

Office of the American Bee Journal,
Monday, 10 a. m., May 11, 1885.

The following are the latest quotations for honey and beeswax received up to this hour:

CHICAGO.

HONEY.—Demand is light and receipts are also light as it approaches the end of the season. Prices range from 10@15c. for best grades of comb honey, and for extracted, 5@7c.

BEESWAX.—Yellow, 27@30c.

R. A. Burnett, 161 South Water St.

BOSTON.

HONEY.—We quote the following prices: Fancy white comb in 1-lb. sections, 16@18c.; the same in 2-lb. sections, 15@16c; fancy white California 2-lbs., 12@14c. Extracted weak, 6@8c. Sales very slow.

BEESWAX.—32 cts. per lb.

Blake & Ripley, 57 Chatham Street.

NEW YORK.

HONEY—Of late we have had quite a stir in our honey market, and comb and extracted has moved freely. Since Sept. 1, 1884, we have received 197,002 lbs. of comb honey in 1 and 2-lb. sections, and 112,000 lbs. of extracted. We quote prices obtainable as follows: Fancy white comb in 1-lb. sections, 14@15c; the same in 2-lb. sections, 13@14; Fair to good white comb in 1-lb. sections, 12@13c; the same in 2-lb. sections, 11@12c. Fancy buckwheat comb honey in 1-lb. sections, 9c; the same in 2-lb. sections, 8c. Ordinary grades not wanted. Extracted white clover in kegs or barrels, 7@8c; extracted buckwheat, or dark, in kegs or barrels, 6@6½c.

BEESWAX—Prime yellow, crude, 32@33c.

McCaul & Hildreth Bros., 34 Hudson St.

CINCINNATI.

HONEY—Nothing new has transpired in the market. Demand has improved for good qualities of extracted honey, but the large stock on the market keeps prices low. It brings 5@9c on arrival.

BEESWAX—It is in good demand and brings 26@30c on arrival.

C. F. Muth, Freeman & Central Ave.

SAN FRANCISCO.

HONEY—Nothing is doing on export account, and very little local trading. There is considerable honey still on the market, but stocks do not include much of strictly choice quality. White to extra white comb, 8@9c; dark to good, 4@7c; extracted, choice to extra white, 4¾@5¼c; amber colored, 4¼@4¾c.

BEESWAX—Quotable at 23@25c—wholesale.

O. B. Smith & Co., 423 Front Street.

ST. LOUIS.

HONEY—Steady; demand and supply both small. Comb, 12@14c per lb., and strained and extracted 5½@6c.

BEESWAX—Firm at 32@32½c. for choice.

W. T. Anderson & Co., 104 N. 3d Street

CLEVELAND.

HONEY—Since our last report there has been a little better demand for honey, and some sales have been made at 13½@14c for best white honey in 1-lb. sections. Second quality is still very dull at 12@13c. Extracted is not salable at any price in our market.

BEESWAX.—Scarce at 28@30.

A. C. Kendel, 115 Ontario Street.

KANSAS CITY.

HONEY—Trade is picking up a little, induced by the extreme low prices at which it is selling. Still there is not the demand there should be. Stocks of all kinds now are full, and more sellers than buyers. Choice white comb 1-lb. sections, 13@14c; 2-lb. sections, 12@13c per lb.; extracted, 5@7c.

BEESWAX.—None in the market.

Clemons, Cloon & Co., cor. 4th & Walnut.

SAN FRANCISCO.

HONEY—We quote comb honey in 2 lb. sections 13@14c; extracted, 6½c.

Geo. W. Meade & Co., 213 Market.

Local Convention Directory

1885. *Time and place of Meeting.*

May 16.—Hancock County, at Findlay, O.
S. H. Bolton, Sec., Stanley, O.

May 19.—N. W. Ills., and S. W. Wis., at Davis, Ills.
Jonathan Stewart, Sec., Rock City, Ill.

May 28.—N. Mich. Picnic, near McBride, Mich.
F. A. Palmer, Sec., McBride, Mich.

May 29.—Haldimand, Ont., at Nelles' Corners, Ont.
E. C. Campbell, Sec.

June 5.—Mahoning Valley, at Newton Falls, O.
E. W. Turner, Sec., Newton Falls, O.

June 19.—Willamette Valley, at La Fayette, Oreg.
E. J. Hadley, Sec.

Dec. 8—10.—Michigan State, at Detroit, Mich.
H. D. Cutting, Sec., Clinton, Mich.

☞ In order to have this table complete, Secretaries are requested to forward full particulars of time and place of future meetings.—Ed.

Special Notices.

☞ Attention is called to the advertisement of "S. J. McKinney's Simplicity Parallelogram Plate" in another column. A simple method of registering the strength of the different colonies of bees in an apiary is a want long felt by every bee-keeper. Mr. McKinney's method meets this demand, it being so arranged that by simply driving a tack at certain points, the strength of the colony (whether weak, medium or strong), may be indicated, and the condition of the colony may be known at a glance.

* * *

☞ Catalogues of bees and queens are received from T. S. Hall, Kirby's Creek, Ala., and of honey sections and berry crates, from the Berlin Fruit Box Co., Berlin Heights, O.

* * *

☞ **Sample Copies** of the Bee Journal will be sent FREE upon application. Any one intending to get up a club can have sample copies sent to the persons they desire to interview by sending the names to this office.

* * *

☞ **Preserve your papers** for reference If you have not got a Binder we will mail you one for 75 cents, or you can have one FREE if you will send us 3 new yearly subscriptions for the Bee Journal.

* * *

☞ We want one number each of the Bee Journal of August, 1866—February, 1867. Any one having them to spare will please send a Postal Card. We will pay 50 cents for one copy of each of the two numbers.

* * *

☞ Our rates for two or more copies of the book, "Bees and Honey," may be found on the Book List on the second page of this paper. Also wholesale rates on all books where they are purchased "to sell again."

* * *

☞ All who intend to be systematic in their work in the apiary, should get a copy of the Apiary Register and commence to use it. The prices are as follows:

For	50 colonies (120 pages).............	$1 00
"	100 colonies (220 pages).............	1 25
"	200 colonies (420 pages).............	1 50

The larger ones can be used for a few colonies, give room for an increase of numbers, and still keep the record all together in one book, and are therefore the most desirable.

Convention Notices.

☞ The Bee-Keepers' Association of Central Illinois will meet at Bloomington, Ills., on July 15, 1885, at 10 a. m.
Wm. B. Lawrence, Sec.

☞ The Hancock County, Ohio, Bee-Keepers' Association will meet at 9 a. m., in Findlay, Ohio, at Mr. Bradnor's, on the Lima road, on May 16, 1885. S. H. Bolton, Sec.

☞ The Willamette Valley Bee-Keepers' Association will hold its second meeting at La Fayette, Oregon, on the third Tuesday in June, 1885. All who are interested are invited to attend. E. J. Hadley, Sec.

☞ The Mahoning Valley Bee-Keepers' Association, will hold its next meeting at Newton Falls, Ohio, on Thursday, June 5, 1885. E. W. Turner, Sec.

Advertisements.

200 NUCLEI COLONIES

of Hybrid Bees on Langstroth Frames, metal cornered and all-wood frames. Two-frame Nuclei, $2.25 each; 3-frame, $3.00—**Now ready to ship,** at Corinth, Miss. Address,

T. S. HALL,
19A2t KIRBY'S CREEK, Jackson Co. ALA.

CALL IN TIME

for colonies of **Pure Italian Bees** with home-bred mothers. One colony, $7; 3, $6 each; 5 to 10, $5.50 each; 15, $5 each. For particulars, call on E. S. HILDEMANN, Ashippun, Dodge County, Wis.
19A1t

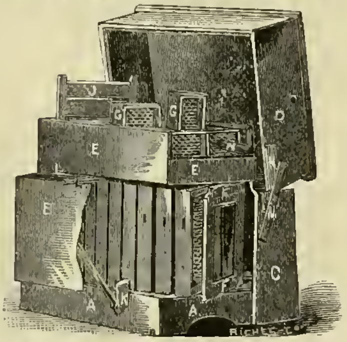
BEES for SALE

For particulars, address
CHAS. W. BRADISH, Greig, Lewis Co. N. Y.
19A2t

ITALIAN QUEENS, $1; $10 per doz.; tested, $2.00. Safe arrival guaranteed. Circular free.
18A2t J. M. KILLOUGH & CO., San Marcos, Tex.

STANDARD

DOUBLE WALLED



CROWN HIVE!

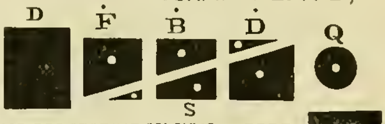
The Best Arranged

BEE-HIVE for all purposes in existence. Sample Hives complete, **$2.50** each; in the flat, in lots of six, **$1.75** each. Descriptive Circular sent FREE. Address

E. ARMSTRONG, Jerseyville, Ills.
19A4t 6B1t

1500 Valuable Presents GIVEN AWAY to NEW subscribers to the **American Apiculturist.** For explanation see page 286 of this Journal. SILAS M. LOCKE & CO., Wenham, Mass. 19Atf

S. J. McKINNEY'S
SIMPLICITY
PARALLELOGRAM PLATE,

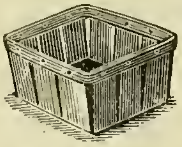


FOR REGISTERING COLONYS OF BEES

THE conditions, weak, medium and strong in stores, are indicated by figures in the lower line, S; if weak, put a tack in the figure, on the left; medium, in central figure; strong, in right figure. If weak in bees, a tack in right figure, upper line; medium, in central figure; strong, in left figure. If foul, a tack in F; foul brood, in F B; brood, in B. If diarrhetic, a tack in D. D, slate for registering dates of examination. Q, circular, tack in center denotes presence of Queen. Figure below, date of introduction of Queen. The Slate will be made to register dates of swarms. Price of Diagrams given on application. For further particulars, etc., address

S. J. McKINNEY,
311 South 5th St., - BURLINGTON, IOWA.

BerryPackages



A 32-quart, iron-bound crate, with baskets like this cut, for **75** cents. Send for price-list. Also remember that we make the **Sliced One-Piece Sections** which took first premium at Michigan State Fair last September. They are smooth inside as well as out—the "BEST and NEATEST" Sections made. Address

BERLIN FRUIT BOX CO.,
19A3t Berlin Heights, Erie County, O.

Vandervort Foundation Mill.

6 Inch, Price, $25.00.

It makes the finest extra thin Foundation for comb honey. For Sale by

ALFRED H. NEWMAN.
923 West Madison Street. - CHICAGO, ILL.

W. Z. HUTCHINSON,

Rogersville, Genesee Co., Mich.,

can furnish just as neat, white, smooth and perfect, dovetailed, white poplar sections as there are made. Send for sample and prices. A few full colonies of choice Italians in Heddon hives for sale at $8.00 per colony. Untested Italian Queens (from the South) $1.50 each. Tested Queens reared last year in the home apiary, $3.00 each. Beeswax wanted. Make money orders payable at Flint. 16Atf

1879. —— ITALIAN —— 1885.

QUEENS!

FOR ITALIAN QUEENS in their purity, and that cannot be excelled, **Comb Foundation** and **Supplies** generally, send for Circular.

12 UNTESTED QUEENS FOR $11.00.
15Atf **T. S. HALL, Kirby's Creek, Ala.**

T. P. ANDREWS, Farina, Ill.,

will sell **BEES BY THE POUND,** with Queens, if desired. Safe arrival guaranteed. Send for Circular. 19A2t

BAILEY Swarm Catcher.—Send stamp for circular. J. W. BAILEY, Ripon, Wis.
17D3t

100 Colonies of Choice **ITALIAN BEES FOR SALE.** Send for Price-List. Address,
W. J. DAVIS, (Box 91)
14A9t Youngsville, Warren County, Pa.

WARRANTED ITALIAN QUEENS!

NO Cyprian or Syrian Bees ever introduced into this locality. One Queen in May, $1.50; six for $7.50; after June 15, $1 each; six for $5. Send for our **48-page Catalogue,** describing everything needed by bee-keepers. Address,
18A13t **J. B. MASON,** Mechanic Falls, Maine.

The VICTOR HIVE

DOUBLE-WALLED or CHAFF HIVES 5 in one lot, each, **$3 50**; 10, each, **$3 40**; 25, each, **$3.25**; 100, each, **$3.00**—in the Flat.

SINGLE-WALLED HIVES, 5 in one lot, each, **$2.50**; 10, each, **$2.40**; 25, each, **$2.25**; 100, each, **$2.00**—in the Flat.

WHITE POPLAR DOVETAILED SECTIONS, any size under 6x6x1¾, per 1,000, $6.00. Perfectly accurate; no better.

APIS AMERICANA.—Orders for Queens of the beautiful **SYRIO-ALBINOS**, will now be received. Reared by my **new method**, all are large and fine and perfect. We have made a great discovery in Queen-Rearing, and hereby challenge the production (by natural swarming or otherwise) of Queens that will excel ours in any valuable quality. Isolated 3 miles from other bees. First come, first served. Send for circulars.

Address, **DR. G. L. TINKER,**
1Atf **New Philadelphia, O.**

PURE PHENOL I can furnish Pure Phenol for the cure of **FOUL BROOD**, as described by Mr. Frank Cheshire, of London, England. As it is a liquid, it can be sent only by express. Price, 25 cents per ounce, delivered at the express office in Chicago.

ALFRED H. NEWMAN,
923 West Madison Street, - CHICAGO, ILL.

Bee-Keepers' Supplies.

We have added to our LARGE FACTORY a SPECIAL DEPARTMENT for the

Manufacturing of Bee-Hives,

AND

White Poplar Dovetailed Also, One and Two-piece SECTIONS.

☞ All Orders will be filled promptly at the **LOWEST FIGURES,**

Send Stamp for Catalogue and Samples.

The H. F. MOELLER M'f'g Co.
1A26t DAVENPORT, IOWA.

Dadant's Foundation Factory, wholesale and retail. See Advertisement in another column.

---

65 Engravings.

THE HORSE,

BY B. J. KENDALL, M. D.

A TREATISE giving an index of diseases, and the symptoms; cause and treatment of each, a table giving all the principal drugs used for the horse, with the ordinary dose, effects and antidote when a poison: a table with an engraving of the horse's teeth at different ages, with rules for telling the age of the horse: a valuable collection of recipes, and much valuable information.

Price 25 cents.—Sent on receipt of price, by

THOMAS G. NEWMAN,
925 West Madison Street, - CHICAGO, ILL.

---

60 Colonies of BEES FOR SALE.

For particulars, call upon, or address,
A. L. EDWARDS, SKANEATELES, N. Y.
14A8t 5B1t

1885. 1885.

ITALIAN QUEENS.

J. J. MARTIN, breeder of **Pure Italian Queens**, and dealer in **Apiarian Supplies**.

Untested Queen, $1.00; six untested, $5.00; tested each, $2.00; six $10.00. Send for Catalogue.

Address **J. J. MARTIN,**
18A4t NORTH MANCHESTER, IND.

Bees for Sale Full colonies Italians in Simplicity HIVES (L.) frame, in May, $10; June, $9. Hybrids, $1 less. Satisfaction guaranteed. DR. JOHN S. GATES,
14A6t Wilkinsonville, Worcester Co, Mass.

Dadant's Foundation Factory, wholesale and retail. See Advertisement in another column.

BEESWAX.

I pay **25c.** per pound delivered here, for yellow Beeswax. To avoid mistakes, the shipper's name should always be on each package.

ALFRED H. NEWMAN,

WHOLESALE AND RETAIL DEALER IN

BEE-KEEPERS' SUPPLIES,

INCLUDING SECTIONS FOR COMB HONEY, SMOKERS, VEILS, GLOVES,

Honey and Wax Extractors, Comb Foundation, Kegs and Pails for Honey, Seeds for Honey Plants, etc.,

923 WEST MADISON STREET,

CHICAGO, ILLINOIS.

Illustrated Catalogue sent free upon application.

MY BUILDING

has been enlarged by adding two stories, in order to accommodate my increasing business. My facilities are now ample for a large trade.

ALFRED H. NEWMAN,
923 West Madison Street, CHICAGO, ILL.

BE SURE

To send a Postal Card for our Illustrated Catalogue of APIARIAN SUPPLIES before purchasing elsewhere. It contains illustrations and descriptions of everything new and valuable needed in an apiary, at the lowest prices. Italian Queens and Bees. Parties intending to purchase Bees in lots of 10 colonies or more, are invited to correspond.

J. C. SAYLES,
1D15t 2B5t HARTFORD, WIS.

DUNHAM AND VANDERVORT

FOUNDATION.

WE have bought a large stock of **Choice Yellow Beeswax**, and can furnish Dunham Comb Foundation for brood comb for **45c.** per lb. Thin Dunham for Sections, **50c.** per lb. Extra thin Vandervort, 10 to 12 square feet to the lb., **55c** per lb. **Send for prices for 25 lbs. or more.** Will work up wax into Foundation for **10, 15** and **20c.** per pound.

F. W. HOLMES,
9D9t COOPERSVILLE, Ottawa Co., MICH.

SOMETHING NEW!

THE **Best-Made**, handiest and cheapest combination,

Summer and Winter Hive

in the market. Send for Catalogue of general **APIARIAN SUPPLIES**. The best white poplar **SECTIONS** and pure yellow beeswax. **COMB FOUNDATION** a specialty.

Full Colonies, Nuclei Colonies and

QUEENS for SALE.

Be sure to send for 25th Annual Price List, before making your purchases for 1885.

Address **WM. W. CARY, Jr.**
COLERAINE, MASS.
3Dtf Successor to Wm. W. Cary & Son.

FOUNDATION 200 pounds of first-class Foundation now ready to ship, for 40c. per lb. **T. S. HALL,**
17D2t **Kirby's Creek, Ala.**

SEND FOR IT.

We have just issued a new **Circular** that will interest any bee-keeper. Send your name on a postal card for it.
15Dtf HENRY ALLEY, Wenham, Mass.

---

40 Embossed and Hidden Name Cards, Hand holding Flowers, &c., Game of Fortune and Present, 10c., 11 packs, Pearl Ring and Handkerchief, A. BLAKESLEE & CO., North Haven, Ct.
8D6t

PERFUME

40 Hidden Name and Embossed **CARDS** and this Perfumed Satchet for 12c. Samples, 4c. CLINTON & CO., North Haven, Conn.

☞ *We have seen cards from many firms, but none as pretty as those from Clinton & Co.*
11A11t

Dadant's Foundation Factory, wholesale and retail. See Advertisement in another column.

THE BRITISH BEE JOURNAL

AND BEE-KEEPER'S ADVISER.

The BRITISH BEE JOURNAL is published SEMI-MONTHLY, at Seven Shillings per annum, and contains the best practical information for the time being, showing what to do, and when and how to do it. **Rev. H. R. PEEL, Editor.**
LONDON, ENGLAND.

The British Bee Journal and our Weekly for $3.50: with our Monthly, $2.00 a year.

QUEENS **Send for Price-List of** Italian & Holy-Land Queens for **1885.** BEES by the pound, nuclei and full colonies. **J. C. MISHLER,**
11D6t **Ligonier, Noble County, Ind.**

FOR BEE-HIVES

And a general assortment of **Bee-Keepers' Supplies** send for circular to
51Dtf J. E. PRYOR, Dexter, Iowa.

WEEKLY EDITION
OF THE
AMERICAN
ESTABLISHED IN 1861
OLDEST BEE PAPER IN AMERICA
BEE JOURNAL
PUBLISHED BY
THOMAS G. NEWMAN,
EDITOR AND PROPRIETOR,
925 WEST MADISON-STREET, CHICAGO, ILL.
Weekly, $2 a year ; Monthly, 50 cents.

Vol. XXI. May 20, 1885. No. 20.

APICULTURAL NEWS ITEMS.

EDITORIAL AND SELECTED.

Hail May ; bright, welcome May,
  Charming sunny month of May;
Like the birds, we chant the words,
  To welcome, lovely May.

Mr. Winder writes us that he was in no way responsible for the "photos" made at the Bee Congress. The Exposition photographer did the job and got the money. We innocently supposed Mr. W. had something to do with it.

Mr. J. L. Harris, of Wheeler, Ind., says three-fourths of his bees are dead. They came through the winter all right, until the last cold spell, to which they succumbed. He attributes his loss to lack of late breeding last fall.

American Apiculturist.—We have received from Mr. Silas M. Locke, of Salem, Mass., the "American Apiculturist" for 1883-84, bound in one volume. It contains nearly 300 pages, is nicely printed, bound in cloth, and the price is $2.00.

Backward Spring.—An Exchange remarks that "this is undoubtedly one of the dullest spring seasons we have had in many years, and it seems to be universal in all class of business and all over the country ; there seems to be no spirit to buy, and more than all, no amount of dunning seems to bring settlements for goods sold during winter." This complaint seems to be universal, the world over, but "the shadows will soon fly away" when "the sunshine" comes. Let us take fresh courage, and "hope on."

Professor Von Siebold is Dead.—The "Deutsche Illustrierte Bienen Zeitung," for May, announces that Prof. Karl T. E. Von Siebold died at Munich, Germany, on Tuesday, April 7, 1885. Prof. Siebold was one of the first to accept the parthenogenesis theory of Dr. Dzierzon, and has been for years the Professor of Zoology and Comparative Anatomy in the University at Munich, Germany. He also favored the movable comb invention, and was a progressive apiculturist in every sense of the word. To him, as one of the fathers of modern apiculture, we are indebted for much of the theoretical and practical, in the bee-culture of the present day.

Supply Dealers should be more careful when enumerating "Bee-Books and Periodicals." A catalogue on our desk has a mistake in nearly everything named. Among the periodicals are enumerated TWO which ceased to exist some two years ago, and of the others the prices are wrong in almost every instance. Before getting out catalogues another season, pray do revise the list by the latest BEE JOURNAL.

A Meeting of Nurserymen, florists, seedsmen and kindred interests, will be held in Chicago on June 17-20. An interesting programme has been prepared, promising a profitable occasion to those who may avail themselves of the opportunity. An outline programme, hotel and railroad arrangements, and other information may be obtained by addressing the Secretary, D. Wilmot Scott, Galena, Ill.

Large Sale of Bees.—The "Epoch," Helena, Ark., says that the largest sale of bees on record for Arkansas was made by Mr. Anthony Opp, of that city, to Col. Robt. Adams, formerly of Lexington, Ky., but now a large cotton planter and apiarist, of Chicot County, Ark. The number of colonies bought of Mr. Opp was 200; price paid per colony, $4.50. This addition to Mr. Adams' large home apiary makes him one of the largest bee-owners in the South.

Not Working for Fun.—Mr. F. L. Dougherty, in the "Indiana Farmer," remarks as follows about the losses of bees in winter : "We cannot decide for others what they should do. While the great loss of bees throughout the State will doubtless discourage many, we are not among these. We expect to make our apiary larger than ever before ; we are not working for the fun of it either. Reverses are bound to come, at times, in all pursuits of life."

The Commissioner of Agriculture has called a convention of representatives of the different agricultural colleges and other industrial and educational institutions, to be held in the Agricultural Department Building, at Washington, on June 24, at 10 a. m. The object of this meeting is to obtain concerted action on subjects relating to agriculture, among the various agricultural institutions. It is desired that each institution of the kind send one or more delegates to this meeting.

Winter Losses of Bees.—The "Chronicle," of Norwalk, O., for May 7, contains the following item: "The losses of bees have been enormous. Some bee-keepers have lost their entire stock; others more than half, and almost all have lost severely. Newman Brothers, of this city, estimate their loss at $2,000. Mr. Joseph Gibbs has lost every colony he had—56 in number. It is said that but two colonies remain in good condition in the township of Bronson. Mr. H. R. Boardman, of East Townsend, is the only bee-keeper in this vicinity, so far as we have learned, who has not had a serious loss." Those who have wintered their bees without loss, are the ones we want to hear from. Will Mr. Boardman please detail his method of management for the benefit of the readers of the BEE JOURNAL? In his letter published on pages 235-6, he says that he made a test of "honey-dew" for winter stores, and still "lost none," when thousands succumbed on account of its use.

Spring has come—the weather is fine, and the "blues" may be banished. We hope to have a fine, rich harvest of nectar. The spring is late, of course, but the bloom of May will come in June, and give just as much honey as if it came earlier. Get the bees ready to gather it when it does come, for "many hands make light work," and the more bees we have, the more honey they will gather, if it is to be found.

Bees Breeding.—Mrs. L. Harrison, of Peoria, Ill., says : "Strong colonies increase in numbers very fast, while small ones gradually grow less. I shall stimulate strong colonies, so that they will be able to spare young bees to the weaker. I am now moving the bees to clean hives, and in doing so, ascertain the exact condition of every colony. If I find a queen with few bees, when I move a strong colony many young bees remain in the old hive, and these I give to the small colony. On jarring the hive, the old bees will fly back to their old stand, and I pour the remaining downy ones in front of the weak colony."

Hibernation.—In reference to the use of dogmatical expressions, complained of by Rev. W. F. Clarke, on page 216, Prof. A. J. Cook replies in "Gleanings" as follows : "Of course, I ought to have said, 'In my judgment, bees never hibernate.' Let me add that I do not plead guilty to all the harsh sayings I am credited with. I mean always to be courteous. Reporters at conventions must be brief, and so they often give our assertions a sharp twang that we are not responsible for."

He then discusses the theory of hibernation as follows : "Hibernation I understand to be like sleep, only far more profound and persistent. In this state, respiration is greatly reduced—the temperature falls nearly or quite to that of the surrounding air, the heart beats very feebly, and has power, through heightened irritability, to circulate impure or venous blood. The animal, when hibernating, takes no food, is torpid, and hard to arouse. In real hibernation there is no emission of fecal matter. Most insects do hibernate; indeed, so profoundly that all respiration and circulation are held in abeyance. I have had caterpillars frozen to the condition of an icicle, and yet, with warmth, revive and seem all right. De Geer, Reaumur and Kirby, all record the same startling fact. Now, how is it with our hive-bees? The organs of the mammals, in hibernation, are as cold, often, as the surrounding air. I have found, by putting a themometer into the cluster, that in the case of bees the temperature will always range from 20° F. to 30° F. above the outside cold in winter. In severe weather there may be a difference of from 60° to 80°. We thus see that the vital action of bees does not fade out, and, of course, the mainsprings of this action, the heart and respiratory organs, do not greatly lessen, or, much less, fade away. Bees also take food, are constantly changing their position, and are easily aroused. I do not believe that bees can be taken at any time, unless fatally or seriously chilled, and the cluster be broken, in a warm room, and they not show full activity. Therefore I repeat, I do not think that our bees hibernate. The great Kirby, of England, is in accord with this. He says bees do not hibernate.—(See Ency. Brit., Vol. II., page 787)."

QUERIES

WITH

REPLIES by Prominent Apiarists.

Feeding Back Extracted Honey.

Query, No. 64.—Does it pay to feed back extracted honey to queenless colonies for the purpose of having them store it in the sections?—A. O. C.

Prof. A. J. Cook remarks thus: "Not generally; some may make a success of this feeding back."

G. W. Demaree replies as follows: "'Feeding back,' in my opinion, will never pay, except, perhaps, to finish up sections."

Dr. G. L. Tinker remarks thus: "Probably not, unless it is to get partly-filled sections completed."

G. M. Doolittle replies as follows: "Why say 'queenless colonies?' I did not know that such were used for that purpose. I have failed to make 'feeding back' profitable."

James Heddon says: "I should say no. It is much better that colonies used for 'feeding back' purposes are not queenless."

Laying-Capacity of a Good Queen.

Query, No. 65.—Messrs. Boardman, Miller, Cook, Hutchinson and Heddon unanimously agree, on page 196, that 8 Langstroth frames are sufficient for the brood-chamber of a strong colony; Mr. Doolittle even reduces the number to 7. An 8-frame Langstroth hive (standard size) if ENTIRELY occupied by worker-comb, contains 1,168 square inches of comb, or 58,400 cells. From this we must deduct at least 10 per cent. of the space for the usual supply of honey and pollen, leaving 52,560 cells. Allowing 21 days for the bee to hatch and one day for the bees to fix the cell and for the queen to find it again, we have an average of a little less than 2,400 cells for the queen to fill per day, and with Mr. Doolittle's 7 frames we have a trifle over 2,100 cells. Now, I wish to ask this question: Do Messrs. Boardman, Miller, Cook, Hutchinson and Heddon, consider 2,400 eggs the utmost daily laying-capacity of the queen of a strong colony? and does Mr. Doolittle consider 2,100 cells sufficient? or do they all think that there is not 10 per cent. of the space occupied by honey, pollen, or defects, or passages in the combs? Or do they not care whether the queen can lay to her utmost capacity in the breeding season? I ask these questions because many besides myself consider even the 10 frames in a Langstroth hive, as hardly sufficient for the laying-capacity of the best queens.—Critic.

G. M. Doolittle says: "If a colony having a very prolific queen is given 30 Langstroth frames, using but 8 to start with, and adding 2 or 3 until the 30 are all in, it will be found that such a queen will lay from 5,000 to 6,000 eggs daily and die of old age, or exhaustion, when but 18 to 24 months old; while with a small brood chamber, she will give as good results in comb honey and live for 4 or 5 years. Besides, all queens are not alike prolific, so I use a brood-chamber so small that all queens will keep it filled with brood."

W. Z. Hutchinson remarks thus: "I do not consider 2,400 eggs the utmost daily laying-capacity of a queen; but, instead of uncapping honey, spreading the brood-nest, practicing stimulative feeding, etc., I simply reduce the size of the brood-nest to such an extent that an ordinary queen will keep it full of brood without any 'horse-whipping.' Queens, as they are ordinarily produced in an apiary run for honey, cost nothing; combs and hives do. Why not have a sufficient number of queens to keep all of the combs filled with brood, without the extra work of manipulation that is required to induce an ordinary queen to keep 10 combs full? The capacity of the brood-nest should rather be below than above the capacity of the average queen. Unless this is the case, the outside combs are often dead capital."

James Heddon answers: "Who cares if a queen can lay 5,000 eggs daily during a certain period? What is the price or worth of that kind of eggs? Queens cost almost nothing, compared with combs and fixtures. The matter is not to always keep all queens employed, but just the reverse—always keep all combs and other capital employed. A hive that is large enough to always keep the fertility of the queen supplied with room, will have too much capital lying idle a large share of the year, and be a bungling hive at that. If I made no error, I had a German queen whose fertility reached a little over 4,000 eggs daily, for a short period. But what of this? It is the quality of bees from all our queens, and not the quality from any one queen, that we are seeking. Bees are valuable; eggs are not. Sometimes it costs more to rear bees from eggs than the bees are worth."

Prof. A. J. Cook remarks thus: "I think and know by actual observation, that a queen may lay over 3,000 eggs per day; but I think that 2,400 would be a good maximum average. Rain, cold, disturbance—many things retard the activity in the hive and of the queen. Experience seems to show me that for comb honey, 8 frames for Langstroth hive is best. This keeps the frames full of brood and puts honey into the sections."

Shaded Bees and Swarming.

Query, No. 66.—Will bees that are sheltered from the sun's rays swarm as early as those not so shaded?—J. H. A.

W. Z. Hutchinson replies thus: "No."

James Heddon replies as follows: "Not as a rule, here."

Prof. A. J. Cook answers thus: "Very likely not. Much sun and warmth in the spring promotes rapid breeding, and so induces early swarming."

G. M. Doolittle says: "Not as a rule; especially if the shade is from some densely-leaved tree."

Dr. G. L. Tinker replies thus: "No; but the size of the brood-chamber and the surplus apartment, and the amount of ventilation, has more to do with it than the sun's rays."

G. W. Demaree answers: "So far as theory goes, they will not; but the facts show that bees go by no 'rule' when it comes to swarming. If you want increase badly, your bees will most likely tarry in the sun or in the shade; but if you have as many bees as you want, they will begin to swarm before breakfast, and swarm late and early."

Honey and Beeswax Market.

Office of the American Bee Journal,
Monday, 10 a. m., May 18, 1885.

The following are the latest quotations for honey and beeswax received up to this hour:

CHICAGO.

HONEY.—Demand is light and receipts are also light. Prices range from 10@15c. for best grades of comb honey, and for extracted, 5@7c.

BEESWAX.—Best grade weak at 28c.

R. A. Burnett, 161 South Water St.

BOSTON.

HONEY.—We quote the following prices: Fancy white comb in 1-lb. sections, 16@18c.; the same in 2-lb. sections, 15@16c; fancy white California 2-lbs., 12@14c. Extracted weak, 6@8c. Sales very slow.

BEESWAX.—32 cts. per lb.

Blake & Ripley, 57 Chatham Street.

NEW YORK.

HONEY—Present sales of comb honey are very slow, and owing to the lateness of the season, we do not anticipate any change in prices until the new crop commences to arrive. We quote at present as follows: Fancy white clover in 1-lb. sections, 14@15c; fair to good white clover in 1-lb. sections, 12@13c; fancy white clover in 2-lb. sections, 13@14c; fair to good white clover in 2-lb. sections, 11@12c; fancy buckwheat in 1-lb. sections, 9@10c; fancy buckwheat in 2-lb. sections, 7@8c. Ordinary grades, no sale. Extracted white clover, 7@8c; extracted buckwheat, 6@6½c.

BEESWAX—Prime yellow, 32@33c.

McCaul & Hildreth Bros., 34 Hudson St.

CINCINNATI.

HONEY—Nothing new has transpired in the market. Demand has improved for good qualities of extracted honey, but the large stock on the market keeps prices low. It brings 5@9c on arrival.

BEESWAX—It is in good demand and brings 26@30c on arrival.

C. F. Muth, Freeman & Central Ave.

SAN FRANCISCO.

HONEY—Nothing is doing on export account, and very little local trading. There is considerable honey still on the market, but stocks do not include much of strictly choice quality. White to extra white comb, 8@9c; dark to good, 4@7c; extracted, choice to extra white, 4⅜@5¼c; amber colored, 4¼@4¾c.

BEESWAX—Quotable at 23@25c—wholesale.

O. B. Smith & Co., 423 Front Street.

ST. LOUIS.

HONEY—Steady; demand and supply both small. Comb, 12@14c per lb., and strained and extracted 5½@6c.

BEESWAX—Firm at 32@32½c. for choice.

W. T. Anderson & Co., 104 N. 3d Street

CLEVELAND.

HONEY—Since our last report there has been a little better demand for honey, and some sales have been made at 13½@14c for best white honey in 1-lb. sections. Second quality is still very dull at 12@13c. Extracted is not salable at any price in our market.

BEESWAX.—Scarce at 28@30.

A. C. Kendel, 115 Ontario Street.

KANSAS CITY.

HONEY—Demand for choice white comb in ½-1 and 2-lb. sections is good, and prices fairly maintained. Half pound sections, 15@16c; 1-lb., 13@14c; 2-lb., 10@11c. Extracted slow at 5@7c. We could sell some ½-lb. sections of comb honey and a few more nice white 1-lb. sections.

BEESWAX—25@30c., according to quality.

Clemons, Cloon & Co., cor. 4th & Walnut.

SAN FRANCISCO.

HONEY—We quote comb honey in 2 lb. sections 13@14c; extracted, 6½c.

Geo. W. Meade & Co., 213 Market.

CORRESPONDENCE.

Explanatory.—The figures BEFORE the names indicate the number of years that the person has kept bees. Those AFTER, show the number of colonies the writer had in the previous spring and fall, or fall and spring, as the time of the year may require.

This mark ⊙ indicates that the apiarist is located near the centre of the State named: ♁ north of the centre ; ♀ south ; ○+ east ; +○ west; and this ♂ northeast; ⌐○ northwest; ○⌐ southeast; and ♀ southwest of the centre of the State mentioned.

For the American Bee Journal.

Use of Comb Foundation.

JAMES HEDDON.

Our early teachings were that from 18 to 25 pounds of honey must be consumed by the bees to enable them to produce one pound of wax, or virgin comb. I never believed that it took so much honey, but I could not dispute it, because the authorities said so, and I had made no tests ; and so we all stood by those figures.

When comb foundation was ushered in, it was found to be a good thing, an economical thing, and among others of the reasons why, was the great amount of honey saved by its use. Practical experience has convinced honey-producers that about one-half of the above-mentioned amount of honey is all that the bees require to build one pound of comb. It has also proven true that with some varieties of comb foundation, and qualities of wax of which comb foundation may be made, that bees will sometimes fail to utilize the comb foundation given them, and merely taking it for a base, build upon that base.

When honey is at a very low price, some bee-keepers begin to inquire about the profit and loss in using comb foundation. The mind, like the body of man, seems to be a bundle of actions and re-actions, and let the claims of anything once over-reach the truth, and many will think the whole claim based upon fiction. At one time many thought comb foundation to be intrinsically worth $5 per pound ; then $2 per pound ; and now the question is being asked, "Is it wise to invest in it at 50 cents per pound ?" Having used possibly 10,000 pounds of all kinds of comb foundation, from that made by the first mill to the almost perfect comb foundation of to-day, I will give my opinion on this question.

All know the present price of honey —the ultimatum of our business. One of the largest honey-producers in America, and a man who stands high on the Board of Trade, and whose judgment need get behind that of no other bee-keeper in this country, cheers me on with the statement that he believes that the next twenty years will pay a wholesale net-price of 16 cents per pound for prime comb honey. This will put extracted at 8 to 9 cents per pound. Taking this for a basis, what is comb foundation worth to the honey-producer to use in full sheets in the brood-frames and sections ? What is its value in the brood-frames as a saving of material, time and labor ? Also as a perfect guide not only as to the straightness of the comb, but the kind of cells that such comb shall possess ? I must say, certainly much more than the price of to-day.

Nearly, or quite all of those who are doubting the economy and comfort in the use of comb foundation are unwilling to give it up for surplus honey. I say so, too. I would use it, there, if it cost $1 per pound, and always in full sheets. I believe that we are making the mistake of using it too thin in the surplus boxes, and too heavy in the brood-frames. This arises from two fears—"fish-bone" and wires. For three years I used full sheets of comb foundation in surplus boxes, of the weight that is now used for brood-frames. It was before comb foundation was made of different weights for different purposes. It averaged about 4 to 5 square feet to the pound, and during those three years no person, except my assistant and visiting advanced bee-keepers, ever saw comb foundation in my yard. Not a person in this county would have known what was meant, had the words comb foundation been mentioned. Only one person in three years—one among thousands consuming my honey—ever signified anything uncommon regarding the combs, so far as ever came to my knowledge. Hundreds praised the honey. Does not the "fish-bone" scare come from the same source as the adulteration scare — from the bee-keepers themselves ?

I much prefer to have comb foundation no lighter than 8 to 9 square feet to the pound, and I am not sure that it would not pay well to make and use it heavier. Regarding comb foundation for the brood-frames : I believe that wax has been lost by making it so heavy as 4 square feet to the pound, which I believe has been done in many cases to bolster up the claim that wires were not needed in brood-frames. Last year I experimented some regarding the most economical weight to make comb foundation for the brood-frames, and I feel confident that foundation from 6 to 8 square feet to the pound, used in full sheets in wired frames, is indicative of wisdom and economy.

For my own part, I never expect to place a brood or surplus frame with my bees until I fill it completely with comb foundation. I can vividly remember the *modus operandi* and its results when managing bees without comb foundation ; next with comb foundation as guides only, and much of it of poor quality ; and then of the several years that we have used it in full sheets, first without wires, and then with wires, and it is my firm conviction that any who may now be doubting its use and economy, will finally use it thus, after passing through the experimental period and learning just how to arrange all the minor conditions.

Dowagiac, ♀ Mich.

Read at the Bee-Keepers' Congress.

Honey Production of North Carolina.

ABBOTT L. SWINSON.

The improved methods of apiculture are but little known or practiced in our State. There are but few practical apiarists—not one to each county throughout the State, there being 95 counties, covering an area of 48,580 square miles. In this territory there are, approximately, 47,500 colonies of bees ; of this number there are possibly 2,000 in movable-frame hives in the hands of young bee-keepers ; and of the number mentioned there are probably 250 colonies of pure Italian bees, 1,000 colonies of hybrids, and the remainder are our common black or German bees kept in the old style "gums" and box-hives.

There is annually produced and sold at least 50,000 pounds of beeswax at an average price of 20 cents per pound, amounting to $10,000. She produces an average of 5 pounds of honey per colony, equal to 237,500 pounds in all, which is sold at an average price of 8 cents per pound, or $19,000. The total value of beeswax and honey produced annually, is $29,000. The average price paid for a colony of bees in a "gum" or box-hive is $1.50 each ; the average increase is 40 per cent.

Bees need no protection during winter on the summer stands. Those kept here (Wayne county) in movable-frame hives produce, on an average, 50 pounds of comb honey. They would do much better in the Eastern or Western parts of the State, as the bee-range is better. There is no real failure of honey-flow the year round in my section of the State. I think that we can safely count on 30 pounds of surplus comb honey per colony, one year with another, when handled by a practical apiarist. Our main honey-flow is during May, when the resources are inexhaustible from poplar, black-gum, holly, low-bush, huckleberry, and gallberry, with which the eastern part of the State abounds. Bees breed all through the winter, and take a flight one day in nearly every week. Queens may be bred and fertilized in April and on to Nov. 1.

Goldsboro, ⊙ N. C.

For the American Bee Journal.

Linwood Convention.

The Linwood Bee-Keepers' Association met at Rock Elm, Wis., on May 4, 1885. After being called to order, and the usual routine of business was finished, considerable time was spent in perfecting the organization ; and a new constitution and new by-laws were adopted.

Each bee-keeper present was called upon to give his method of wintering bees, and nearly all wintered their bees in cellars. All agreed that out-door wintering would not do in this climate. The time of taking bees out of the cellar was discussed, and the opinion was that they should be kept in as long as possible, or until the weather warranted removing them; also, that in taking them out considerable caution should be exercised in order to prevent mixing.

Mr. Wm. Fuller read an essay on "Italianizing bees." He first gave some points of superiority possessed by the Italian bees as follows: 1. They stick to the combs better, so their work is not interrupted by handling. 2. They are quieter in winter quarters. 3. They will work in rougher weather than other bees. 4. They are proof against moths. His method of Italianizing is to take a comb with a queen-cell in it, or put one in it, and then put the comb into a hive with other combs, move the hive with bees which you wish to Italianize, some distance away, and put the new hive where the old one was, and the returning bees will go into the new hive and build up a colony of Italians.

Black bees *vs.* Italians as honey-producers was debated. A difference of opinion prevailed, and the discussion was lively, but the majority were in favor of the Italians.

An essay was read by Mr. A. C. Sanford, on "Marketing Honey." He said that honey should be put up in as neat and attractive a manner as possible, and in such sized packages as the market demands; also that summer and fall honey should be graded separately.

Those present reported 294 colonies, last fall, and 181 this spring. The Association then adjourned until the first Tuesday in September, 1885.

B. J. THOMPSON, *Sec.*

Gleanings.

Apis Dorsata, the Large Bee of Java, Captured at Last.

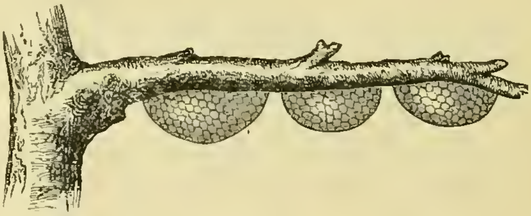
A. BUNKER.

I have at last captured a swarm of *Apis dorsata*, and have it safely hived in an observatory hive. There are about half a bushel of bees, and are they not magnificent fellows? My hive is about 6 feet tall, and 3x3 wide and deep. The bees were secured on a very high tree, on which were 13 other colonies. The limb was cut off, and forms the top-bar for the comb, and hangs like a movable frame in the hive. I have had a sheet of glass, 9x16 inches, put into the back of the hive, and a door made to shut all up, when one does not want to watch them. The brood-comb is about 14x16 inches, and is solid with brood. I see no pollen or honey in the comb. There are young and old bees. The old have the abdomen a bright yellow, with narrow black bands, while the young (?) are much darker in color; but I cannot speak with much certainty, for I have not studied them long enough yet. They sting, but the sting is not much worse than that of the *Apis Indica*—at least I judge so; for in putting them into place, my assistant was stung four times, but it was not followed by swelling. The sting is much larger than the common bee, of course; and as one of my Karens said last night, "It makes a hole at once." Yet, I judge that it is bearable.

Their wings are beautifully irradiant; and looking at them on their comb by night, with a strong light, they are most beautiful. This morning they are going out of and into their hive, and looking all about their home. Will they stay and go to work or not? is the question; we shall see.

One thing I notice: They are far less excitable than *Apis Indica.* They move slowly, do not dash about their cage, and struggle for exit like that bee. They impress one, however, with an idea of "reserve power," if they have a mind to use it. I do not think they are quick on their combs to repair damage, but I cannot yet speak with definiteness. I also have a swarm of the "melipona" working well.

I have been studying the *Apis dorsata*, and there seems to be two kinds of this bee in Burmah, each quite distinct, though I have not yet secured specimens for comparison. One kind is yellowish in color, and usually builds nests on the limbs of very high trees, or in rocky cliffs, while the other is nearly black, hairy, and builds in thickets, or limbs of trees, or on creepers, often near the ground. Both are unicomb bees. The former kind is often vicious; the latter is very gentle, according to all reports, and the natives have no fear of it at all. They often approach the nest of the latter by daylight, and take off pieces of comb, without smoking or protection of any kind whatever, and without often being attacked by the bees. The former kind defends its nest with great vigor; and if they once set upon an enemy, they follow very persistently for a long distance, and sometimes natives thus pursued must make to a neighboring stream to escape. One ruse for escape is to break off a thickly leaved bush and plunge into the water, and allow the branch to float down with the current, while the fugitive plunges into the water. The bees then follow the branch down stream, and lose sight of their victim. Yet, the first kind with the yellow markings is not always so vicious, as they can be easily subdued with smoke; and if handled carefully they seem to be as gentle as many kinds of *Apis mellifica.* Both kinds leave Burmah at the beginning of the rains, and return on Feb. 1, each year. They usually return to their former place of abode. This is especially true of the yellow kind, which occupies a chosen tree or trees in a particular locality, year after year, so that the natives buy and sell these trees as valuable property.



HOW THE COMBS ARE BUILT BY APIS DORSATA.

I judge that these bees migrate to some distance to the north, for these reasons: 1. The reason why they migrate at all, seems to be the exposed position of their nests, on the under side of the limbs of high trees, exposed to all weather. The high winds and violent showers of the beginning of the monsoons would always destroy their nests. I never saw a nest survive the rains; hence, migrating on account of the rains, they must needs go to a climate where the rains are less violent, or where they can find sheltering cliffs in which to build. 2. When they return they are often found resting near the ground, before selecting the tree on which to build a new home. Sometimes they will rest there a week and then take flight again. At such times they are very cross, and the natives are very careful not to go near them. There are no cliffs or rocks in Burmah in which these bees can build; if there were, they might remain here the year round, as I understand they do in Ceylon and in Northern India.

In the Padung-Karen country, about 80 miles northeast from Toungoo, these bees are in some sense domesticated, as are also the *Apis Indica.* In order to secure the services of the *Apis dorsata*, the Padungs dig a trench in a side hill, and drive a stout stake, inclined about 45° toward the down slope of the hill, into the ground, and lean branches of trees against the stake on either side, making a shield from the wind. The *Apis dorsata* returns to these places year after year, and the natives secure bountiful harvests of wax and honey, always leaving some for their yellow workers. May it not be that the *Apis dorsata* builds one comb, only because it does not usually find a place to build double combs? The comb is so large that it must indeed be a large limb of a tree to give room for double combs.

From all inquiries which I have made, I am strongly inclined to believe that the *Apis dorsata* can be domesticated, especially the black-colored species. Yet, to insure success, doubtless much study must be given to the habits of this bee, and all the conditions of domestication be approached as near as possible to their wild state. The fact, as I am informed, that, in regions of less rain, in cliffs and rocks, these bees are found year after year, goes to show that migration is not necessary to this bee as to "birds of passage," etc.; that if the conditions are favorable they may be kept the year round. The fact that these bees can be mistaken for hornets by the natives, as in Mr. Benton's experience in Ceylon, shows how little we can depend on their judgment in such matters.

Toungoo, Burmah, Feb. 28, 1885.

For the American Bee Journal.

Honey-Dew for Winter Stores.

J. W. BAYARD.

In July of 1884, after the heat and drought had destroyed all the white clover, as well as other honey-producing flora, my bees completed their work of filling the sections, with honey-dew from the leaves of the forest—such as ash, hickory, walnut, buckeye, chestnut and maple. During the flow of honey-dew, not from flowers, but from bark-lice and aphidæ, some of my colonies cast about 4 or 5 swarms. I gave them a full complement of nice, clean combs with the hope that they might provide for winter stores from fall flowers; but the thing grew desperate, and about Sept. 1 I found them on the point of starvation.

I now determined to make a test of the possibility of wintering bees on honey-dew (of which I had a large surplus), and so I fed them up liberally. They at once commenced breeding, and by the last of October 2 of the late colonies were up to the maximum of prime ones, and 2 others in a very satisfactory condition. About Nov. 10, I made a critical examination of all the combs, but I found neither eggs, larvæ, nor brood, and not the shadow of pollen, for the reason that all they were able to gather from corn-blossoms and otherwise, was consumed in filling up their ranks with young, vigorous bees.

On Nov. 23 winter commenced, but at the end of about three weeks we had three days of beautiful weather which induced a universal flight of all the colonies, not one of which showed the least symptom of disease, save the 4 above-mentioned; their condition showed the worst possible type of diarrhea, as fully one-half of each colony lay dead on the bottom-board, while others too sick to fly, simply tumbled out of the hive and died on the ground. Determined to give them fair treatment, and make a fair test of the experiment, I cleaned them all up and dried out their hives, preparatory to another siege of frost and snow, which continued throughout February. This settled it; for long before March dawned upon them, every bee in the 4 colonies was dead, and that, too, from eating honey-dew, pure and simple, as a winter diet.

In this connection, bee-keepers might feel anxious to know the condition of my other colonies (80) at the close of a hard winter, and after the storage of such an abundant crop of honey-dew as we enjoyed last season. At the first flight after their long confinement in February, every colony that had yielded a surplus of honey-dew, showed alarming symptoms of diarrhea—as smearing the fronts of their hives and spotting the snow in all directions, the color of the excreta being almost identical with that of the honey-dew itself, as stored in the combs. On the other hand, all the colonies that produced a surplus of white clover honey, were not only free from disease, but showed quite a small percentage of loss compared with the former.

In offering the foregoing, I promulgate no theory or pet notion, but give simple facts as they developed before my own eyes, and under the guidance of my own hands. On pages 499 and 537 of the Bee Journal for 1884, timely warning was given, not to trust the honey-dew as winter stores for bees, except, perhaps, as an experiment; and I shall anxiously await reports from all those who have applied the tests and reached conclusions during the winter just ended. Then, if we have added but one grain to the great store-house of knowledge in the science of apiculture, we shall be more than compensated for all our sacrifice and trouble. That more than one potent factor underlies the destruction of our bees in winter, has been clearly demonstrated from time to time; and now the proper thing for bee-men to do, is to search for a thorough remedy through the various channels of experience and fact.

Athens, O.

Read at the Bee-Keepers' Congress.

Honey-Production of Tennessee.

W. P. HENDERSON.

I have no means of knowing, so as to give an approximating accurate statement of the amount of honey and wax produced in Tennessee. The last census, although very unsatisfactory in some respects, gives the only data to which we can refer, and I suppose the following paragraph, taken from a late paper, was taken from it:

"The annual report of the Department of Agriculture, makes this record: Corn production for 1884, 1,795,000,000 bushels; wheat, 513,000,000 bushels; oats, 583,000,000 bushels. These aggregates are the largest ever recorded, the rate of yield being 25.8 bushels of corn, wheat 13, and oats 27. Tennessee produces more honey than any other State in the Union, the annual crop being over 2,000,000 pounds. New York comes in second best."

It may be that since the taking of the census in 1880, the Department of Agriculture at Washington, through its numerous local reporters, have gathered statistics monthly and yearly of the production of honey, as of wheat, corn, oats, live stock, etc.

The mortality of bees throughout Tennessee during the winter of 1884-85 was great, due almost entirely to starvation. But little honey was gathered after July of 1884, and I may say that the fall crop was a total failure. This was, no doubt, due to the unfavorable state of the atmosphere for the secretion of nectar in the fall bloom. I expect that an unusual amount of wax will be offered in the market in the spring, as a large majority of the bee-keepers in our State use the primitive "gum" and box, and know of no other way of utilizing the empty combs, except to melt them into wax. Prejudice and ignorance, coupled with the fact that so many have been imposed upon by patent venders of clap-trap, moth-proof hives, may have deterred many otherwise intelligent persons from adopting the movable-frame hives. We have the country, but what we need is intelligent and posted bee-keepers.

Murfreesboro, Tenn.

For the American Bee Journal.

Western Bee-Keepers' Convention.

The Western Bee-Keepers' Association held their semi-annual meeting in the Court House, at Independence, Mo., on April 23 and 24, 1885. The meeting was called to order by the President, A. A. Baldwin, at 11 a. m., on April 23. The Secretary read the report of the last meeting, which was approved. A committee to select subjects for the consideration of the convention, was appointed by the President. At 12 m. the convention adjourned until the afternoon.

At 1:30 p. m. the convention re-assembled and took up the following question: "How shall we manage our bees to put them in the best possible condition for the season's work?" which was discussed at length with the following conclusions: Contract the brood-nest to the number of combs the bees can cover, keep plenty of honey or syrup in the hive, and spread the brood and add extra combs as fast as the increase can cover them.

The second subject was, "How shall we manage our apiaries during the swarming-season, in order to obtain the best results?" After a long discussion the following conclusion was reached: Let the bees swarm naturally, and if increase is desired, take the old queen and a part of the bees, and hive them on empty combs or foundation, and return the bulk of the bees to the old colony; in six days destroy all queen-cells, and give a queen-cell ready to hatch. This is the method adopted by Mr. L. W. Baldwin and the Secretary, and has proven satisfactory.

"How shall we care for our honey?"—a very important question to apiarists and honey-dealers—was discussed at length, and the general conclusion arrived at was, that it should be kept in a warm, dry room where it would not undergo the process called "sweating."

The discussion of the question, "How shall we dispose of our honey?" concluded the afternoon session. The result was a diversity of opinions as to how the honey crop should be sold; but the more favored of which was that it should be sold at wholesale or through commission houses.

The evening session was occupied with a general discussion of topics important to bee-keepers.

The second and last day's session was the most interesting ever held by the Association. There were present several prominent bee-keepers from abroad. The usual routine of business of the convention was taken up first and disposed of; then the question, "How shall we prepare our bees for winter," was taken up. Mr. L. W. Baldwin gave his 20 years' experience in favor of good cellars for wintering. Mr. E. M. Hayhurst gave his experience in favor of chaff packing and out-door wintering. Mr. Jas. H. Jones was also in favor of chaff packing and wintering on the summer stands. He had wintered his bees very successfully during the past winter, both in the cellar and on the summer stands well packed in chaff. Mr. Jas. A. Nelson favored a good, dry cellar, but had wintered bees on the summer stands for 6 years without loss.

The question was asked, "What shall we do with the empty combs?" In answer, Mr. Hayhurst advised storing them in closets made especially for that purpose, and thoroughly fumigating them with sulphur. In regard to fall feeding, Mr. Hayhurst thought the best way was to feed the strong colonies, and let them do the storing, and after the food is sealed in the combs, remove them to the colonies in need of food.

A resolution was entertained as to the presence of pollen in the hives, which resulted in a full expression that pollen is not detrimental to the successful wintering of a colony of bees in a normal condition. Mr. Baldwin asked the question, "What is the best and cheapest means of shading hives artificially, and is it necessary?"

The convention thought that shading was necessary. Many suggestions were made, and the matter was left to the choice and convenience of the bee-keepers. At 12 m, the convention adjourned for refreshments, after which to meet at the apiary of Mr. L. W. Baldwin.

At the afternoon session, after reviewing Mr. Baldwin's apiary and learning several practical lessons, the convention discussed the subject of the healthfulness of bee-keeping, with the final conclusion that it was a really healthful occupation.

It was decided that the Secretary be requested to continue to prosecute the duties assigned him as a Vice-President of the National Bee-Keepers' Society, and if needs be, call any to his assistance as seems best in his judgment, and that the Association re-imburse him in any outlay of money in the accomplishment of the duties of conferring with the various transportation lines in securing an equitable scheduling of the products and material of the apiary. The convention then adjourned till the annual meeting, six months hence, to be held at a place and time to be determined by the executive committee.

C. M. CRANDALL, *Sec.*

A. A. BALDWIN, *Pres.*

Read at the Bee-Keepers' Congress.

Honey Production of Virginia.

J. W. PORTER.

The flora of our State is abundant and greatly varied; being well watered in every part, with two great mountain ranges largely covered with timber, its sylvan character is equally varied. All the varieties of trees common to the great Middle States are found within her borders, and very abundant in many sections are many of the honey-producing varieties, such as the tulip, the yellow, white and honey locust; and the chestnut, the willow, and the alder. The maple and linden do not abound as they do farther north, but they are quite plentiful in some sections. The orchards, meadows and pastures all over our State supplement the large ranges of the forest, and afford sources of production which are as yet very little utilized. Many varieties of the goldenrod, the asters, and above all the blue thistle—which is very abundant in sections, and affords a nectar of rare excellence—the nettle, the Spanish-needle, and catnip, with many other honey-producing plants, are common. In natural resources for honey-production, I doubt if there is any State in the Union which surpasses Virginia.

How are the natural resources improved? Everywhere in the State one may find men familiar with hunting bee-trees, and in every neighborhood the log "gum" or the box-hive. Here and there we will find a progressive bee-keeper who is trying to keep up with the times, but the great body of those who keep bees are content to plod along as their forefathers did. Their productions are not seen in the great markets, and very rarely anywhere outside of the farm house.

The writer's own production of honey—6,000 pounds in 1884—largely exceeds that of any bee-keeper known to him in Virginia. He believes he could treble it were he able to give apiculture his undivided attention. From a somewhat extensive acquaintance with the markets, I judge that very little more honey is exported from the State than is imported; certainly not more than 10,000 pounds.

Charlottesville,⊙ Va.

For the American Bee Journal.

Central Illinois Convention.

The Central Illinois Bee-Keepers' Association met at Jacksonville, Ills., on May 2, 1885. At 1 p. m. Vice-President Bowen called the meeting to order, and after the minutes of the last special meeting had been read, the topic of wintering bees was taken up.

Mr. A. Reid reported a loss of 2 colonies out of 7, caused by stores giving out, in the combs upon which the bees were clustered, while too cold for them to move to full frames.

Mr. J. M. Hambaugh, of Versailles, uses the Langstroth hive, and prepared his bees for winter by placing them in a temporary house made of fodder; but out of 60 colonies he lost 20. He put them out twice during the winter, the last time being in February. He was of the opinion that honey-dew and unsealed honey is bad winter food, and was the cause of much loss.

Mr. J. R. Lieb, of Scott county, wintered 100 colonies in common hives on the summer stands, and lost 30. A neighbor with 40 colonies in common hives lost 13; another with 50 in Common-Sense hives, lost none.

Mr. Thos. Kershaw, of Concord, has 9 colonies left out of 17. They starved for want of honey.

Mr. Middleton, though the high winds were well broken from his hives, lost all but 8 colonies out of 30. He uses Langstroth hives with only eight frames, and thinks it too small capacity for both the brood and the winter stores.

Wm. Camm reported a loss of 55 colonies out of 113. Colonies in hives that were sheltered wintered better than those that were exposed. A cross between Cyprian and Italian he thought the hardiest race. He preferred that the sun should shine upon his hives in winter. He left his hives on the summer stands, merely placing quilts over the brood-chambers. He thinks that we will have to make warmer hives and use more shelter in this climate.

Vice-President Bowen lost 7 out of 11 colonies in modified Langstroth hives.

Mr. C. P. Dadant, of Hamilton, lost 125 colonies out of 425. Out of 40 put into the cellar, only 6 were lost. He lost the most in hives with shallow Langstroth frames; the least in deep Quinby frames. He thought instinct misguided bees when it prompted them to carry in the juices of fruits for winter food.

Mr. Camm, though admitting the bee to be a domesticated insect that needed the intelligence of man to complement its instinct, preferred to trust his bees with regard to their own food, as he had known them to do well in exceptionally hard winters with stores that bee-keepers almost universally condemned.

Mr. Dadant allowed the bees to remove all dead bees from the combs; but Mr. Camm said that he carefully removed them himself, as the queen refused to lay in combs with dead bees in them, and the cells had often to be cut down to the septums in order to get the dead out.

On the question of relative profit between comb and extracted honey, Messrs. Hambaugh and Dadant thought that extracted honey was the most profitable, as so much more could be obtained, especially by Mr. D's plan of "tiering-up" the same as for comb honey, and saving time and labor by extracting all at once in the fall.

Mr. Camm would rather produce extracted honey at 10 and 12 cents per pound than comb honey at 18 and 20 cents; but his market preferred comb honey.

It was generally considered that it was better to divide colonies when one had full combs to give the new colonies, than to allow the bees to swarm naturally. The Association then adjourned to meet on the last Wednesday and Thursday in October, at the same place, the chairman, Mr. Reid and Mr. Middleton having been chosen as committee on arrangements.

WM. CAMM, *Sec.*

For the American Bee Journal.

The Characteristics of Syrian Bees.

REV. M. MAHIN, D. D.

I have had Syrian and Holy-Land bees for the last three years, and I have kept them side by side with Italians. I have every reason to believe that those from which I bred were pure. My first queens were pure themselves, and were fertilized by pure drones. These, I suppose, were Holy-Land queens, proper, and not of the variety to be found further north in Syria. Of the latter variety I procured two queens. I believe that they produce pure Syrian bees. I have now 20 or more colonies of these oriental bees of different degrees of purity; the most of them seem to be pure, and a few are crossed with Italians and blacks.

The first question that demands answer is, Are they productive? or, will they pay? As I have said, I have now kept them for three years, along with Italians, treated in every respect as the latter were, and I have found them every year more profitable than the Italians. While some Italian colonies have done better than some Syrian colonies, the latter have averaged higher in the amount of honey produced. Last season was, in this locality, the worst since I have kept bees, and I did not get an ounce of comb honey from any colony that was not part Syrian; I got a little extracted honey from a few pure Italian colonies. The superiority of the Syrians over the Italians, for the last two seasons, especially, was unmistakable.

The puzzle connected with the Syrians is their temper. One reports them quite gentle and easily handled, and another almost impracticable on account of their crossness; and both are right and both are wrong. When undisturbed they are inclined to mind their own business, and let all the rest of creation alone. As a rule, one may walk among the hives, or work in their vicinity and be undisturbed; I think that under these conditions they are less inclined to sting than Italians. When they are gathering honey, even at a moderate rate, they are very easily handled, if one knows how to manage them. Last summer I handled mine generally without using any smoke; sometimes I lighted the smoker, and set it down where I could get it if I should want it, but I seldom used it. At other times I opened the hives and took out sections or combs for extracting, without having the smoker lighted at all, and without being stung. But I did not dare to handle Italians in that way. I can handle Syrians more rapidly than Italians, especially if the bees are to be removed from the combs; they are far more easily dislodged.

In handling Syrians, smoke is of very little use. A little is sometimes useful to keep them from rushing out when the hive is first opened; but if they become angry, smoke will not subdue them. The best thing to be done in that case, if there is no danger from robbers, is to leave the hive open and go away from it for a time, when they will get over their excitement, and with proper care the needed operations can be performed. But there are exceptions to this, as to nearly all other rules in the art of bee-management. In 1883 my Syrians were as easily handled in fall as well as in summer, as the Italians; but not so in 1884. In the late autumn of this year it was difficult to handle some colonies that, earlier in the season, were very gentle. After a trial of a little more than three years, I am prepared to say that, on the whole, I find the temper of the Syrians unobjectionable.

In prolificness the Syrians certainly excel. The colonies build up in the spring and early summer with wonderful rapidity; and while the queens are very prolific, and require a good-sized brood-chamber, they are not much inclined to swarm. One of my queens has kept her hive "booming" with bees for more than two years, and there has been no attempt at swarming. I have given them plenty of room in which to store honey, and they have been content to stay at home and work. It has been said that a Syrian queen will continue to lay as long as there is a drop of honey in the hive, but this is a great mistake. When the honey harvest ceases, breeding ceases; but winter generally finds the hives well stocked with bees, and, as they winter well, they are apt to be in good condition to resume business in the spring.

As to the quality of the honey stored by the Syrians, I see no difference between it and that stored by Italians. Their honey is always thick and heavy, never being sealed until it is thoroughly ripened; their comb honey is, in general, like that of the Italians in appearance. Perhaps two of my colonies make dark looking comb honey, the caps fitting down smoothly on the honey, and being so thin that it shows through; but I have had Italians do the same thing.

Syrian queens mated with Italian drones produce very fine bees. In temper they resemble the Syrians more than the Italians, and they are very fine workers. I have some colonies half Syrian and half black; these I regard as more desirable than the cross between the Italians and blacks, because they are as good workers, and are less vicious—at least I have found them so thus far; but my experience with them is limited.

The most beautiful bees that I have are the progeny of an Italian queen and a Syrian drone. The silver gray hairs of the Syrians on the beautiful golden color of the Italians has a very pleasing effect. They have had no opportunity, as yet, to exhibit their qualities as workers. For queen-rearing the Syrians are greatly superior to the Italians; they build more queen-cells, feed the young queens better, and so rear better queens.

New Castle,◦ Ind.

Read at the Maine State Convention.

Hints to Beginners in Bee-Keeping.

J. B. MASON.

This is truly a subject of vast importance, at least to beginners if to none other. As I look back to my own beginning in bee-culture and think of the many discouragements with which I had to contend, owing to not having any one to instruct me, I feel for the beginner to-day, and am glad to be able to aid him, if ever so little.

The beginner in bee-keeping is ordinarily fired with enthusiasm and bound to (in imagination at least) make the business not only a success, but a matter of profit from the start. In this he will not be disappointed if he is willing to be governed by the advice of those of experience to whom he may apply for assistance; but if he (as many have done) takes the matter into his own hands, and regardless of the valuable warnings and attempts to do in his first season what an expert would deem a perfectly safe and easy matter, he will surely be courting failure.

The first aim of the beginner in apiculture should be to post himself fully in the theory of the business, by a careful study of some one or more of the best works on the subject, which should not only be read, but, as I have said, carefully studied. One may keep bees, and for a time make the business comparatively successful without this preparatory study, but, like all other occupations into which science enters largely, a thorough theoretical knowledge of principles is of the utmost importance, and will insure success, when otherwise failure would inevitably result. Having attained this theoretical knowledge, his next step should be to choose the form of frame which he will use, and in this choice he will meet with much diversity of opinion, and it behooves him to be careful. The Langstroth frame, however, has been used, and has stood so well upon its merits with our ablest apiarists, that the beginner will do well who makes it his choice. Having decided the form of frame to be used, he should procure a few bees and locate his apiary; if possible his hives should face the east or southeast, and should be in plain sight of his house, so that any signs of swarming in its season, or any disturbance at any time, can be seen and remedied.

On the north and west sides of the apiary a tight fence or good, snug hedge should be placed as a windbreak. Bees are seldom destroyed by cold, but they do suffer much from the disturbance caused by high winds and severe gales, and anything done to relieve them in this direction is profitable. The hive should be placed low down, not more than 6 inches from the ground, and the whole space around it should be kept perfectly clean and free from weeds. The hives should not be nearer than within 6 feet of one another, if natural swarming is be depended upon; if increase is to be made artificially, they can be within 3 feet of one another.

Having located his apiary, the beginner is now ready to learn by practical work among the bees, to apply to the best advantage the principles with which he has already familiarized himself, and right here is the "rock on which too many slip;" viz: they are too ambitious, and want to increase their number of colonies too fast to simultaneously secure a large yield of surplus honey. The beginner naturally desires rapid increase, and at the same time looks for some of those remarkable yields of honey that he reads of as having been secured. His first desire was increase, second surplus; the first he secures, the second he does not; and so he at once forms the conclusion that his location is not a good one for honey. Now this rapid increase and large surplus cannot be secured at the same time, except in particular cases. Let it be remembered that every move made towards increase, whether made naturally or by dividing the colonies, is in exact opposition to the storing of honey. To secure a good crop of honey there are four things absolutely necessary: 1. To secure a knowledge of the flora of the locality, to know every flower within flight-range, and its time of duration of such secretion. By this means he will be able to know just when to put on and when to take off sections, when to feed for stimulating or otherwise—in fact, such knowledge will be the key to the situation, and the means by which he can turn an ordinarily poor season into a productive one. 2. At the time the honey-flow commences, to have the hives full of bees. 3. To keep the whole working-force together through the entire honey-flow. There are different methods of accomplishing this, some one of which the bee-keeper should adopt. 4. The flowers must contain the honey, else the crop cannot be secured.

I have only attempted to outline some of the difficulties that a beginner meets at the outset. Fellow bee-keepers, we are all working in unity and harmony for the common good of our common cause. Let us hope that our meetings, small though they are in point of numbers, and springing as they have from weak beginnings, will eventually grow till they become, as they should, a power in the land. They will, if we only do our part well. Shall we not do it?

Mechanic Falls, ♀ Maine.

* * *

☞ The Bee-Keepers' Association of Central Illinois will meet at Bloomington, Ills., on July 15, 1885, at 10 a. m.

Wm. B. Lawrence, Sec.

☞ The Mahoning Valley Bee-Keepers' Association, will hold its next meeting at Newton Falls, Ohio, on Thursday, June 5, 1885.

E. W. Turner, Sec.

For the American Bee Journal.

Methods of Curing Foul Brood.

A. W. OSBURN.

On page 245, Mr. G. M. Doolittle gives his experience in curing foul brood, and his method of cure is precisely what I have practiced for many years in California, *i. e.*, fire and water. While I have been here I have tried the phenol method, but did not succeed with it; perhaps I did not do it right. I do not condemn Mr. Cheshire's treatment, because I did not succeed with it, but the old way will succeed.

As to confining the bees of a diseased colony, it makes this difference: If you take the bees and put them on empty frames, it is not necessary to confine them, or starve them; because, as Quinby says, the honey which the bees have with them will be consumed in building comb. I have never tried putting the bees on foundation, but if the colony was small, so that several days would elapse before there was any comb completed for the queen to lay in, it would be a success. I have tried full, drawn-out combs, to no purpose; for the bees would store the honey that they took with them, and when the eggs hatched feed it to the larvæ.

Again, I have caged the queen, put the bees on full, drawn-out combs, and kept the queen caged three days, so the honey would be consumed before there was any eggs laid; but I invariably failed, as there would be sure to be honey left that contained the disease, and my trouble was lost. So now I confine the bees three days, and give them water once a day, for more bees will perish for want of water while confined, than there will for want of food in that length of time.

Nothing could please me better than to know that some American apiarist had succeeded in curing the Simon-pure foul brood by the Cheshire method of treatment; then I should be encouraged to try again.

Cuba, W. I.

* * *

For the American Bee Journal.

The Wintering Problem.

J. F. LATHAM.

The solution of the wintering problem, if an opinion may be formed from the details of last winter's experiments as they appear in the Bee Journal, seems to exist in the simple process of allowing well constituted colonies of bees the privilege of surviving the winter on the strength of their bodily vigor; the superior intelligence of the manipulator being but a minor auxiliary to the workings of nature, through bee-instinct. The fact is very apparent that mechanical efforts, counter to the instinct of the honey-bee, fail to list among the requisites of hibernation in the only one applicable sense of the term, if the original is allowed credit for the root, on which our linguists have constructed the word, and assigned its definition; especially when observation leads to the conclusion that bees hibernate "scientifically" at any season of the year—accepting consequent hibernal requirements as a necessary repose, incident to the season of actual hibernation during the winter months.

During the season of winter repose, or "pralaya"—if the term "pralaya" be admissible—the habitual requirements of the honey-bee evince the embodiment of certain prime requisites, or one requisite to each instinctive demand; viz: 1. A healthy body. 2. Wholesome food. 3. A clean domicile. 4. Warmth sufficient to prevent devitalized functionality. 5. Pure air drawn from a quiet source. 6. Quietude. Other factors might be added to the foregoing as adjunctives, but they can be only accounted as results of the preceding requisites—not as co-workers.

At this point, although making the statement with reluctance, I think that a slight defect exists in the general indices of some of our apistical teachings; for, in the fullness of man's ingenuity and culture he can only apply the accomplishing means—the elements really possess the control—and only when conditions of preparation conform to climatic conditions, will bees winter uniformly in all localities; when they do cooperate, healthy colonies will pass through any winter within the limits of our latitude safely and well.

I have no hesitancy in stating that, when the general requirements that may be deduced from the foregoing as elemental in the process of winter preparation are properly applied, it will not require lengthy articles for a correspondent to narrate how he lost or killed his bees in attempting to winter them. Although destitute of originality, the statement that last winter, in this vicinity, was a severe one for bees, and, in fact, everything else possessing life, whether habituated to "scientific" hibernation or not, is no less true. With one exception, my hives are free from the accredited evidence of bee-diarrhea. The exceptional colony, as a consequence of brood-rearing and long, uninterrupted confinement, smeared the edges of the combs next to the entrance quite badly. This fact, that the diarrhetic discharges were over and about the entrance to the hive, seems to point to the devitalizing effects of cold as a factor in producing bee-diarrhea when bees are in a condition most susceptible to its influence. Although the diseased colony was weakened in numbers, their loss was not disastrous, as they are at work vigorously "building up" as fast as a cold, backward season will permit.

Four of my colonies succumbed to starvation, the consequence of having been robbed in November and December, which were unusually warm months for our seasons. The combs on which those bees died are as clean and free from offensive odor as those of a colony in a normal condition in midsummer; notwithstanding they contain "lots" of pollen—so much that I think I was deceived in the quantity of honey they contained, last fall. From the appearance of the combs, some of the starved bees attempted to prolong their existence by eating the wax instead of the pollen. This may be an absurd opinion, but if it is absurd, correction will be appreciated, as this is the first post-mortem investigation of a colony of bees that I have performed, after having put them into winter quarters in a sound condition.

In conclusion, I believe that to have our bees winter well, their vitality must be protected. Devitalizing influences from whatever source derived are the "whats" that kill the bees; and those "whats," I believe, exist in the process of supplying or withholding the fuel needed for the production of calorific combustion, coupled with the means in general use for allowing them to receive the full measure of its effects. Give them their dues compatible with the calls of instinct, and they will organize their own system of hibernation, conform to its requirements, and be ready to accept their vernal duties, at the conclusion of their winter repose, with unimpaired vitality.

Cumberland, ♀ Maine.

◆

For the American Bee Journal.

Women as Bee-Keepers.

DR. W. G. PHELPS.

In these progressive times the sphere of woman's toil and usefulness is constantly enlarging. To the ranks of the "bread winners," females are constantly being added, who prove their *right* to the position by their very ability and success. The very best evidence of success in any calling, says one, is for a person to *succeed*. It is not strange, therefore, that ladies, having a natural taste for entomology and similar studies, should turn their attention to bee-keeping as a congenial pursuit; and enquiries are often made respecting its adoption and following, as a supplementary means of livelihood and pleasure.

Among the ranks of bee-keepers stretched over this broad land, a score or more of women might be named, who have been pre-eminently successful in keeping bees. Several are particularly noted as writers on bee-culture. Mrs. Harrison's articles, for instance, are much quoted and read with great interest by thousands. Mrs. Tucker, of Indiana, has likewise contributed much to apiarian literature. Both of the above named ladies are practical bee-keepers, and follow the pursuit with marked success. In this connection we might also name Mrs. Jennie Culp, who, by systematic labor, has become the owner of upwards of 100 colonies of bees, that annually bring her a neat little income.

Mrs. Culp says: "I attribute my success to having everything in readiness at the right time, my bees in a vigorous, healthy condition at the opening of the honey harvest, and each of my surplus honey-boxes supplied with a piece of comb, or of foundation; consequently there was no time lost in the workers building comb. Last season I realized 5,000 pounds of extracted honey and 300 pounds of white comb honey. Another element of success in profitable bee-keeping I find to be keeping the bees busy. I think that in their habits they approximate us, being of higher intelligence, in that when every wish is gratified we are disposed to say, 'Soul take thine ease, thou hast much goods laid up for many years,' or, in other words, with a well filled hive they are apt to settle down into a listless, lazy condition."

Now, it is within the power of many women in our land, whose time is not now wholly occupied, to attain in a greater or less extent, just such results. It is the mental, if not the audible exclamation of many, "Oh, for an opportunity to earn an income all my own!" Here, therefore, is an open gateway to the desired goal. True, not all ladies have the taste, strength or capacity to "fuss with bees," but many have that hardly suspect it. It will therefore be a genuine surprise to themselves to find how readily they will fall into the way of handling and the general management of bees. To rob bee-keeping of some of its poetry, though, I would suggest to all women really interested, that they may expect some stings, tired backs and aching heads in properly attending to an apiary. Disagreeable things attend every calling, therefore, do not expect to find bee-culture an altogether "rosy" business. It is undoubtedly a healthy occupation, and will afford that which most of our American women so sadly need—exercise in the open air. I have scarcely a doubt that much of the present debility and physical weakness endured by the female sex of this country would pass away with the increased employment in congenial, out-door occupation, of which bee-keeping forms a type.

The "bloomer suit" would naturally suggest itself as the proper costume for a woman engaged in bee-keeping. In assisting me among the bees, my "better half," with straw hat, bee-veil and rubber or buck-skin gloves secured at the wrist, considers herself "bee-proof," and renders excellent service in manipulating the little workers. With father or brother busy in the driving work of the farm, why should not one of the daughters, or even the mother (if provided with needed help in the kitchen) take a hand in running the apiary? I doubt not that the necessary labor among the bees (more properly woman-work) will be done in a far neater and more systematic manner than if those "horrid bungling men" were entrusted with it.

Galena, δ Md.

◆

☞ The Willamette Valley Bee-Keepers' Association will hold its second meeting at La Fayette, Oregon, on the third Tuesday in June, 1885. All who are interested are invited to attend. E. J. HADLEY, Sec.

SELECTIONS FROM OUR LETTER BOX

Bees with Bushels of Pollen.—J. E. Hunter, Wyoming, ○+ Iowa, on May 5, 1885, writes:

Last fall I put 150 colonies of bees into the cellar, and this spring I took out 147 colonies in as nice condition as I ever had bees; and they had bushels of pollen, too.

Rearing Brood—Gathering Honey.—Isaac Sharp, Waveland, +○ Ind., on May 7, 1885, writes as follows:

Last fall I prepared about 80 colonies on the summer stands, by removing all surplus honey arrangements, and supplying their places with chaff cushions. I gave ventilation above the cushion to keep it dry. About half the number of colonies are alive now and doing tolerably well. The spring is so very backward. The bees have gathered honey from soft and hard maple, and started brood-rearing very nicely. I hope that peculiar disease which I wrote about on page 103, will not trouble any of my bees this season. I suppose that no one could even suggest a remedy.

Report, from J. C. Stoddard, Springfield, ♀ Mass., on May 5, 1885:

Bees have wintered better in this part of the country than in the West. Some few colonies have died with the diarrhea. On Jan. 12, I had 5 colonies robbed of 2 to 4 frames from each hive, and part of the bees perished on the frozen ground. Those that remained in the hives are alive yet. I kept some of my bees in the same room where I lived, the temperature being at from 45° to 50°; they consumed but little honey, and came out in splendid condition. Bees must be kept comfortable.

Western N. Y. and Northern Pa. Convention.—A. D. Jacobs, Jamestown, ♀ N. Y., Secretary of this Association writes as follows:

The Western New York and Northern Pennsylvania Bee-Keepers' Association held its second annual meeting at Cuba, N. Y., on May 5, 1885. Owing to stormy weather the attendance was small. After the election of officers a few new names were added to the roll of membership, some important questions were discussed, and the convention then adjourned to Salamanca, N. Y., on Tuesday and Wednesday, Sept. 1 and 2, 1885.

Late Spring—Cool Weather.— Dr. H. M. Williams, Bowdon, +○ Ga., on May 6, 1886, writes as follows:

Never since I have been keeping bees have I seen such a late spring. My bees came through weak, but they are getting strong now. We generally have the most of our swarming in April, but this year I have had only 4 swarms, and 2 of them came out of the same hive. I am rearing some fine queens, and I made my nuclei the easiest this year that I ever did. I sold some colonies, but some of the bees came back, and so I gave them a frame of brood, and they are doing finely. I sold one colony, moved it about one mile, and I am confident that half the bees came back. I gave them a frame of fine brood, and let them rear a queen. I am fearful that we are going to have a bad honey year here, for May and June are the main honey months, and the weather keeps too cool for bees to do much.

Bees Working on Apple Bloom.—W. B. Zinn, Holbrook,⊸ W. Va., on May 8, 1885, reports as follows:

We have had a very cold winter here, and a great many bees perished for the want of food and suitable hives to withstand the severe winter. Bee-culture is in its infancy in this State. The latter part of last summer was so dry that the bees did not gather honey enough to winter on, and feeding bees sugar is yet a great novelty with some people here. Last Nov. I had 27 colonies which I doubled back to 22, and fed them 190 pounds of granulated sugar. I had 18 colonies in chaff hives, of which I took out all the frames in the upper story and put in five inches of wheat chaff; the other 4 colonies were in single-walled hives. From those 4 hives I took out 4 frames and put in 2 thin division-boards on each side of the brood-nest, and put in chaff between them and the sides of the hives, and a chaff pillow on top of them. They all wintered well, and all seemed healthy. One colony starved in the first week in April, but it was my fault. My bees were wintered on the summer stands. They are working finely now on apple bloom.

Shipping Bees.—James B. Mason, Mechanic Falls, ♀ Me., writes thus in regard to the cost of shipping bees:

I wish to ask whether the classification of bee-keeping goods, as published in the BEE JOURNAL and discussed at the Bee-Keepers' Congress held at New Orleans last February, applies to freight or express, or both. Bees are sent mostly by express, and the express companies will not hold themselves responsible for any damage on bees, and still persist in making outrageous charges. I have just received two lots of bees from Tennessee; the first lot was 12 five-frame colonies all packed in 3 boxes, each box weighing about 75 pounds. They were billed at 100 pounds each, and the express company's bill was $27.25. In a few days another lot came, exactly like the first, from the same party, and over the same route, as near as I can ascertain, and the bill on this lot was $17.50. Now, what should cause this difference in charges? The first lot of bees cost, from Clifton, Tenn., to Portland, Maine, over $8 per 100 pounds; and this without any responsibility on the part of the express company.

[The classification as published referred only to freight charges. Probably the first charge was a mistake of the billing clerk. An application to the express company for a REBATE would be wise.—ED.]

Report, from M. Bailey, Winterset, ♀ Iowa, on May 12, 1885:

Bees wintered poorly in this section, from 90 to 95 per cent. being dead. Unwholesome winter stores, improper care and severe cold caused the trouble.

Good Prospects in Utah.—Jno. Dunn, Tooele,⊸ Utah, on May 7, 1885, reports as follows:

Our loss in wintering was light, as the winter was what we call an open one. I wintered my bees mostly on the summer stands. Four colonies I put into my extracting house, but the mice got at them and done more harm than Jack Frost did to those that were outside. As for the spring, I have never seen such for blossoms as the present one, and the bees are "working like beavers," only they make more noise. On May 5 my first swarm for the season issued, and upon examination I found a good many colonies preparing to swarm. I was not quite through with the first swarm, when I was called to attend to another, and I expect that I will have plenty to do now until the swarming-fever is over. I did not have my bees packed on the stands, nor in the honey-house, and I have lost less than some that packed theirs. One bee-man told me that he had packed up his bees good, for he had not one colony now out of three. My loss was 2 out of 22; now I have 23 all in good condition. Some have an idea that we were overstocking our locality, but I have found out that those who say so do not have colonies strong enough to prove to them what can be done even in this much-believed overstocked place. I like to keep my colonies strong. I do not believe in keeping so many colonies—no more than I can keep strong; but last year was rather adverse to keeping bees strong. Our present prospect has never been better in the past three years, and if the caterpillars and worms keep away, we will be able to give a good report next fall.

Orange and Magnolia Honey.—C. F. Henning, Citra,⊙ Fla., on May 4, 1885, says:

I have a lot of pure orange-bloom honey this year. Bees are working now on the magnolias, several varieties of which are growing here in abundance.

Extracting Honey.—E. V. Elder, Lake Village,⟜ Ark., on May 1, 1885, says:

So far this year my bees are doing splendidly. I extracted a little honey on April 29, but I had to quit on account of robbing. I intend to commence extracting in earnest on May 4. I have 67 colonies, spring count. I had one swarm on April 19. I think that if Mr. Heddon would extend the arm on each end of his reversible frame clear down to the bottom-bar, it would be better, for then the bees could not put propolis below their ends. I think it would reverse more easily, and the end-bars would always be clean.

Four-Fifths of the Bees Dead.—A. Reusch, (23—30), Chariton, ♀ Iowa, on May 7, 1885, writes thus:

The past winter was a terrible one on bees in all the Northern States, about 75 per cent. of all the bees being dead, and a good many that are left are weak and diseased. I have made quite extensive inquiries of the bee-men, and received the same answer from all—"dead! dead!" We had in this county (Lucas) about 2,000 colonies, and about 1,600 of them have died. Extreme cold and poor stores gathered from cider and cane mills caused diarrhea among them, and a good many did not have the protection they should have had. The most of the bee-keepers lost all they had, while a few saved nearly all of their bees. I lost 3 out of 33 colonies, one with diarrhea, and I am ashamed to admit that 2 of them starved after they had wintered nicely, and after I had carried them out of the cellar, and had the feeders in the hives, and the sugar in the house to feed them with. I carried my bees out of the cellar on March 2, and they brought in pollen on the last day of March. All but 3 colonies are in good condition, and the 3 are weak, but I can build them up into strong colonies by the time the honey harvest comes on.

Still Snowing.—J. M. Doudna, Alexandria,⊸ Minn., on May 10, 1885, writes:

We had 2 inches of snow on May 6. On May 7 the ground froze hard, and we had a Manitoba zephyr with snow again on May 8. I shall lose the most of my bees.

Argument vs. Invective.—W. Z. Hutchinson, (68—40), Rogersville, ♂ Mich., writes thus:

I was pleased, Mr. Editor, to see the stand that you have taken in regard to offensive personalities. I may have been among the correspondents whose communications were "dumped" in the waste basket; if they contained offensive personalities, "'tis well" that they were "dumped." Let us use strong arguments and vigorous language, but let us be courteous.

No Loss in Wintering.—2—J. Raymond Ball, (27—27), Knowlton, ♀ Quebec, on May 11, 1885, writes thus:

I put out my bees on April 22, after having been confined 173 days, and I found them all alive and generally in good condition, with brood in nearly every hive. (Those who would like to know how and where my bees were wintered, I would refer to page 43.) As the weather was warm, I commenced with an extra hive, and cleaned them all out in good shape, and by the time I got through, the first ones had begun to gather pollen. They worked that night until after sundown, and the next morning they were at it again before sunrise; and that day the mercury was at 80° in the shade. It came on cold after that, and there has not been but 2 or 3 parts of day since, when bees could work. I found that the colonies which were the nearest to the stove and the farthest from the wall had wintered the best. One very large colony that came out as a swarm on June 17, 1884, and gathered 50 pounds of surplus comb honey, was not more than 5 feet from the side of the stove (the thermometer that hung on the end of it would often run up to 65° and 70°), wintered perfectly; and the 3 colonies put together last fall and fed up on sugar syrup, also wintered all right.

Practically No Loss in Wintering.—Ira Barber, De Kalb Junction, ♂ N.Y., on May 13, writes as follows:

My bees are all on the summer stands, after the tumbling they have taken in removing and wintering. My loss is 4 colonies out of 200—2 were so badly broken up that they failed to winter, one starved and one was queenless. I began to put them out on April 17, but the weather was so cold from that time until May, that the bulk of them were left in the cellar until May 1 to the 9th. I have not as even a lot of bees as I have had for the last 8 years, but the most of this was caused in locating so many in a strange yard. They came out bright and clean, except about 20 colonies that were placed too near the bottom of the cellar, in so low a temperature that their hives were quite badly soiled; while those 6 inches higher were bright and clean. In a cellar as good as mine has been—45° to 48°—bees should be placed one foot or more above the bottom of the cellar, where the cellar is very damp; and I consider a warm, damp cellar (and I will say a very damp one), the only safe place to winter bees in. In such a cellar bees winter safely if they have enough of honey, without regard to the time it was gathered, or how much pollen they may have in it; as there will be no discharges from the bees, as a rule, unless it is in a dry state. Bees cannot survive in a warm, dry room for 5 or 6 months, yet they will come out in splendid condition after remaining in a warm, wet room for that length of time. Will some of the great bee-teachers, who never wintered their bees successfully, please tell us why this is so? The prospect for a good honey season in Northern New York is good. Clover has wintered well, and as basswood was a failure last year, we are looking for something from it this year. If we have good weather, a large crop of honey is expected, as there is no loss of bees in this section.

◆

Local Convention Directory.

1885. *Time and place of Meeting.*

May 28.—Southern Indiana, at Madison, Ind.
C. Firth, Sec., Madison, Ind.

May 28.—N. Mich. Picnic, near McBride, Mich.
F. A. Palmer, Sec., McBride, Mich.

May 29.—Haldimand, Ont., at Nelles' Corners, Ont.
E. C. Campbell, Sec.

June 5.—Mahoning Valley, at Newton Falls, O.
E. W. Turner, Sec., Newton Falls, O.

June 19.—Willamette Valley, at La Fayette, Oreg.
E. J, Hadley, Sec.

Dec. 8—10.—Michigan State, at Detroit, Mich.
H. D. Cutting, Sec., Clinton, Mich.

☞ In order to have this table complete, Secretaries are requested to forward full particulars of time and place of future meetings.—Ed.

Special Notices.

☞ As some inquiries have been made by the readers of the Bee Journal as to the result of the fire on May 4, which consumed the major part of three upper floors of my store, burning some extracted honey, but not injuring the lower or sales floor on which stood the comb honey, I can say that my loss was protected by insurance, and that I am doing business at the old stand and having the damage done to the upper floors repaired.

R. A. Burnett.

Chicago, Ills., May 11, 1885.

◆

☞ Supply dealers' Circulars and Price-Lists for 1885 have been received from T. Pierce, Gansevoort, N. Y.; J. H. Tilley & Bros., Castle Hill, Maine; and M. C. Von Dorn, Omaha, Neb.

◆

☞ For two subscribers for the Weekly Bee Journal (or 8 for the Monthly) for one year, we will present a Pocket Dictionary, and send it by mail, postpaid.

◆

☞ To create Honey Markets in every village, town and city, wide-awake honey producers should get the Leaflets "Why Eat Honey" (only 50 cents per 100), or else the pamphlets on "Honey as Food and Medicine," and scatter them plentifully, and the result will be a DEMAND for all of their crops at remunerative prices. "Honey as Food and Medicine" are sold at the following prices:

Single copy, 5 cts.; per doz., **40** cts.; per hundred, **$2.50.** Five hundred will be sent postpaid for **$10.00;** or **1,000** for **$15,00.** On orders of **100** or more, we will print, if desired, on the cover-page, "Presented by," etc. (giving the name and address of the bee-keeper who scatters them).

◆

☞ All who intend to be systematic in their work in the apiary, should get a copy of the Apiary Register and commence to use it. The prices are as follows:

For 50 colonies (120 pages)	$1 00
" 100 colonies (220 pages)	1 25
" 200 colonies (420 pages)	1 50

The larger ones can be used for a few colonies, give room for an increase of numbers, and still keep the record all together in one book, and are therefore the most desirable.

☞ **Preserve your papers** for reference If you have not got a Binder we will mail you one for 75 cents, or you can have one FREE if you will send us 3 new yearly subscriptions for the Bee Journal.

◆

To give away a copy of "Honey as Food and Medicine" to every one who buys a package of honey, will sell almost any quantity of it.

◆

☞ Our rates for two or more copies of the book, "Bees and Honey," may be found on the Book List on the second page of this paper. Also wholesale rates on all books where they are purchased "to sell again."

◆

☞ We want one number each of the Bee Journal of August, 1866—February, 1867. Any one having them to spare will please send a Postal Card. We will pay 50 cents for one copy of each of the two numbers.

◆

☞ The Bee-Keepers' Association of Southern Indiana will meet at Madison, Ind., on Thursday, May 28, 1885, at 9 a. m., in the M. M. Club Room. C. Firth, Sec.

Advertisements.

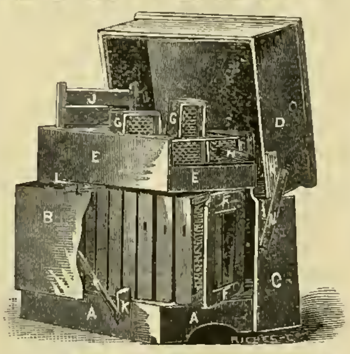
25 HIVES with Combs for Sale CHEAP. A. J. FISHER, box 882, E. Liverpool, O.
20A1t

HEDDON CASES — A BARGAIN.—I have 31 Heddon Cases for Comb Honey filled with nice white comb in each section—28 1-lb. sections in each case. These are **genuine** Heddon Cases, well-made and well-painted with two coats of white paint. Will fit any 8-frame Langstroth Hive. Will sell the lot for **$15.** The best arrangement out for comb honey. I am changing my apiary for extracting.

E. J. SCOFIELD, HANOVER, ROCK CO., WIS.
20A3t

STANDARD

DOUBLE



WALLED

CROWN HIVE!

The Best Arranged

BEE-HIVE for all purposes in existence. Sample Hives complete, **$2.50** each; in the flat, in lots of six, **$1.75** each. Descriptive Circular sent FREE. Address

E. ARMSTRONG, Jerseyville, Ills.
19A4t 6B1t

Hives and Combs for Sale

100 good 10 f. L. Hives, one story (sec. hand) $1.00 each; good, straight empty Combs for same, 10c. each. **Heddon Cases** for 10 f. Hives, painted two coats white, for 1-lb. sections, 40 cents.

Address **D. G. WEBSTER,**
20A2t BLAINE, Boone Co. ILL.

Sweet Clover

— FOR —

BEE PASTURAGE.

IT MAY be sown on all waste places at any time, and will grow on any soil—in any climate. Price, 20 cents per pound; $2.75 per peck; $10.00 per bushel (60 lbs.)

ALFRED H. NEWMAN,
923 West Madison Street, - CHICAGO, ILL.

Apiculturist Experimental Bee-Farm

HENRY ALLEY, Superintendent,

WILL be devoted to rearing the BEST Queens for honey-producing purposes and wintering qualities that can be produced. We have purchased from Mr. Alley, among other stock, 25 colonies of orange-yellow bees for breeding purposes, and they are

BEES THAT HAVE WINTERED

in fine condition and are building up rapidly, and cannot be excelled in any regard. Until **June 20** we will send **for $1.50** the

AMERICAN APICULTURIST

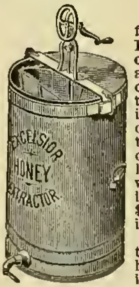
for one year, commencing with the June number (as we have but few back Nos.) and one of our choice $1.50 Queens, either Italian, Syrian Holy-Land, Cyprian or Albino. We guarantee that these Queens shall be first-class in every respect. No Queens shipped until the first week in June. Our enlarged "Bee-Keepers' Companion," (sent free) contains our Circular and Price-List, a likeness of Mr. Henry Alley, the veteran Queen-breeder, and much valuable instruction. It also contains a number of Club offers, as good as the above, which expire June 20.

If you want a first-class Queen and a good bee-paper **cheap**, send your order at once. Make all Postal Notes and Money Orders payable at Salem, Mass. Address **SILAS M. LOCKE & CO.,**
Successors to Henry Alley. WENHAM, MASS.
20A2t

FOR SALE All the volumes of the American Bee Journal (20 years) bound—for **$50.00.**
Address **G. C. SODEN,** Canandaigua, N. Y.
20A1t

EXCELSIOR

HONEY EXTRACTORS



In answer to frequent inquiries for Extractors carrying 3 and 4 Langstroth frames, I have concluded to adopt these two new sizes. The 3 frame basket is in a can of the same size and style as the 2 frame. The 4 frame basket is in the larger can, with the cone or metal standard for the basket to revolve upon, leaving room underneath the basket for 75 or 80 lbs. of honey. It will be complete, with covers, and in every way identical, except in size, with the $16.00 Extractor, 13x20, which is intended for any size of frame.

Excepting with the $8.00 Extractors, all the different styles have strainers over the canal leading to the honey gate, and movable sides in the Comb Baskets. The $8.00 and $10.00 Extractors have no covers.

For 2 American frames,	13x13	inches		$8 00
For 2 Langstroth	"	10x18	"	8 00
For 3 "	"	10x18	"	10 00
For 4 "	"	10x18	"	14 00
For 2 frames of any size,	13x20	"		12 00
For 3 "	"	13x20	"	12 00
For 4 "	"	13x20	"	16 00

ALFRED H. NEWMAN,
923 West Madison St., CHICAGO, ILL.

TO MY FRIENDS AND FORMER CUSTOMERS

I **HAVE** made arrangements with SILAS M. LOCKE & CO., of Wenham, Mass., to rear Queens at the Apiculturist Experimental Bee-Farm, and to act as Superintendent of the same. By so doing, my former patrons will have their orders for Queens filled promptly, and as I have sold them, among other stock, 25 colonies of the finest orange-yellow bees that can be found in the world, you can depend on getting the BEST Queens that can be produced. I cheerfully recommend these parties as honorable and fair-dealing men, and all will be dealt with in a straight-forward honest maner.

20A2t **HENRY ALLEY, Wenham, Mass**

The VICTOR HIVE

DOUBLE-WALLED or CHAFF HIVES 5 in one lot, each, **$3 50**; 10, each, **$3 40**; 25, each, **$3.25**; 100, each, **$3.00**—in the Flat.

SINGLE-WALLED HIVES, 5 in one lot, each, **$2.50**; 10, each, **$2.40**; 25, each, **$2.25**; 100, each, **$2.00**—in the Flat.

WHITE POPLAR DOVETAILED SECTIONS, any size under 6x6x1¾, per 1,000, $6.00. Perfectly accurate; no better.

APIS AMERICANA.—Orders for Queens of the beautiful **SYRIO-ALBINOS**, will now be received. Reared by my **new method**, all are large and fine and perfect. We have made a great discovery in Queen-Rearing, and hereby challenge the production (by natural swarming or otherwise) of Queens that will excel ours in any valuable quality. Isolated 3 miles from other bees. First come, first served. Send for circulars

Address, **DR. G. L. TINKER,**
1Atf **New Philadelphia, O.**

PURE PHENOL I can furnish Pure Phenol for the cure of **FOUL BROOD**, as described by Mr. Frank Cheshire, of London, England. As it is a liquid, it can be sent only by express. Price, 25 cents per ounce, delivered at the express office in Chicago.

ALFRED H. NEWMAN,
923 West Madison Street, - CHICAGO, ILL.

Bee-Keepers' Supplies.

We have added to our LARGE FACTORY a SPECIAL DEPARTMENT for the

Manufacturing of Bee-Hives,

AND

White Poplar Dovetailed **Also, One and Two-piece** **SECTIONS.**

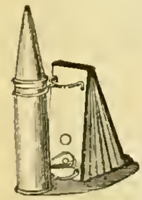
☞ All Orders will be filled promptly at the

LOWEST FIGURES,

Send Stamp for Catalogue and Samples.

The H. F. MOELLER M'f'g Co.
1A26t DAVENPORT, IOWA.

Dadant's Foundation Factory, wholesale and retail. See Advertisement in another column.



Bee-keepers' Supplies,

Standard Langstroth,

Quinby Standing-Frame,

And all other kinds of **Hives**,

MADE TO ORDER.

Quinby Smoker a specialty.

I shall supply anything you need in the Apiary
Send for Illustrated Price List.

W. E. CLARK, successor to L. C. Root,
7A17t ORISKANY, Oneida County, N. Y.

---

60 Colonies of BEES FOR SALE.

For particulars, call upon, or address,

A. L. EDWARDS, SKANEATELES, N. Y.
14A8t 5B1t

1885. 1885.

ITALIAN QUEENS.

J. J. MARTIN, breeder of **Pure Italian Queens**, and dealer in **Apiarian Supplies.**

Untested Queen, $1.00; six untested, $5.00; tested each, $2.00; six $10.00. Send for Catalogue.

Address **J. J. MARTIN,**
18A4t NORTH MANCHESTER, IND.

ELECTROTYPES

Of Engravings used in the Bee Journal for sale at 25 cents per square inch—no single cut sold for less than 50c. **THOMAS G. NEWMAN,**
925 West Madison Street **Chicago, Ill.**

Dadant's Foundation Factory, wholesale and retail. See Advertisement in another column.

BEESWAX.

I pay **22c.** per pound delivered here, for yellow Beeswax. To avoid mistakes, the shipper's name should always be on each package.

ALFRED H. NEWMAN,

WHOLESALE AND RETAIL DEALER IN

BEE-KEEPERS' SUPPLIES,

INCLUDING SECTIONS FOR COMB HONEY, SMOKERS, VEILS, GLOVES,

Honey and Wax Extractors, Comb Foundation, Kegs and Pails for Honey, Seeds for Honey Plants, etc.,

923 WEST MADISON STREET,

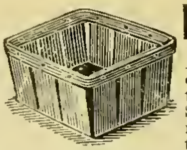
CHICAGO, ILLINOIS.

Illustrated Catalogue sent free upon application.

MY BUILDING

has been enlarged by adding two stories, in order to accommodate my increasing business. My facilities are now ample for a large trade.

ALFRED H. NEWMAN,
923 West Madison Street, CHICAGO, ILL.



Berry Packages

A 32-quart, iron-bound crate, with baskets like this cut, for **75** cents. Send for price-list. Also remember that we make the **Sliced One-Piece Sections** which took first premium at Michigan State Fair last September. They are smooth inside as well as out—the "BEST and NEATEST" Sections made. Address

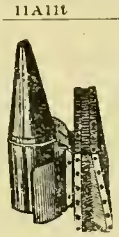
BERLIN FRUIT BOX CO.,
19A3t Berlin Heights, Erie County, O.

T. P. ANDREWS, Farina, Ills.,

will sell **BEES BY THE POUND**, with Queens, if desired. Safe arrival guaranteed. Send for Circular. 19A2t

---

40 Hidden Name and Embossed **CARDS** and this Perfumed Satchet for 12c. Samples, 4c. CLINTON & CO., North Haven, Conn.
☞ *We have seen cards from many firms, but none as pretty as those from Clinton & Co.*
11A11t



BINGHAM SMOKERS.

I can sell the above Smokers at MANUFACTURERS' PRICES, by mail or express, at wholesale or retail. All the latest improvements, including THE CONQUEROR, and THE DOCTOR.

Send for my 32-page Illustrated Catalogue of Bee-Keepers' Supplies of every description.

ALFRED H. NEWMAN,
923 W. Madison, CHICAGO ILL.

1879. —— **ITALIAN** —— 1885.

QUEENS!

FOR ITALIAN QUEENS in their purity, and that cannot be excelled, **Comb Foundation and Supplies** generally, send for Circular.

12 UNTESTED QUEENS FOR $11.00.

15Atf **T. S. HALL, Kirby's Creek, Ala.**

W. Z. HUTCHINSON,

Rogersville, Genesee Co., Mich.,

can furnish just as neat, white, smooth and perfect, dovetailed, white poplar sections as there are made. Send for sample and prices. A few full colonies of choice Italians in Heddon hives for sale at $8.00 per colony. Untested Italian Queens (from the South) $1.50 each. Tested Queens reared last year in the home apiary, $3.00 each. Beeswax wanted. Make money orders payable at Flint. 16Atf

---

Bee-Keepers' Badges at Fairs.

We have some **ELEGANT RIBBON BADGES**, having a rosette and gold Bee, for bee-keepers' use at Fairs, Conventions, etc. Price 50 cents each, by mail, postpaid.

Address, **THOMAS G. NEWMAN,**
925 West Madison St., CHICAGO, ILL.

---

100 Colonies of Choice **ITALIAN BEES FOR SALE.** Send for Price-List. Address,
W. J. DAVIS, (Box 91)
14A9t Youngsville, Warren County, Pa.

BEES for SALE

For particulars, address
CHAS. W. BRADISH, Greig, Lewis Co. N.Y.
19A2t

WARRANTED ITALIAN QUEENS!

NO Cyprian or Syrian Bees ever introduced into this locality. One Queen in May, $1.50; six for $7.50; after June 15, $1 each; six for $5. Send for our **48-page Catalogue**, describing everything needed by bee-keepers. Address,
18A13t **J. B. MASON**, Mechanic Falls, Maine.

WEEKLY EDITION
OF THE
AMERICAN
ESTABLISHED IN 1861
OLDEST BEE PAPER IN AMERICA
BEE JOURNAL
PUBLISHED BY
THOMAS G. NEWMAN,
EDITOR AND PROPRIETOR,
925 WEST MADISON-STREET, CHICAGO, ILL.
Weekly, $2 a year; Monthly, 50 cents.

Vol. XXI. May 27, 1885. No. 21.

APICULTURAL NEWS ITEMS.

EDITORIAL AND SELECTED.

C. Weeks, Clifton, Tenn., has sent us his spring Price-List of queens, bees, etc.

Chaff Packing.—"Cyula Linswik" has again wintered her entire apiary (61 colonies) without loss. They were packed on the summer stands.

An Exchange remarks thus: "The rules say: Spring is the best time to move bees. If, however, one settles on your neck in midsummer, you need not wait until next spring before moving it." You had better not be too anxious to remove it; you may wish you had let it fly away of its own accord. Sometimes it "leaves a sting behind."

Fine Work.—We have several samples of "dovetailed sections" from Dr. G. L. Tinker. They are made of white poplar, and sawed at the rate of one-hundred per minute, or 60,000 pieces in a day. If such "rapid sawing" and "fine work" have before been accomplished, we have not heard of it. They show superb workmanship and make a fine appearance.

How to Propagate and Grow Fruit, by Charles A. Green, contains over 50 illustrations and two colored fruit plates. A 64-page book, price 50 cents, telling how to propagate and multiply strawberries, raspberries, blackberries, currants, gooseberries, grapes, quince, peach, apricot, plum, cherry, pear and apple. It tells how to lay out a garden or fruit farm—how to plant, cultivate, trim, etc. For sale at this office.

Humble Bees are being exported to New Zealand, in order to fertilize the red clover there. A correspondent in the *Scientific American* remarks: "This is not the first shipment of bumble bees; the same experiment was tried with Australia some years since, and with success. It is a fact that without the bumble bee, in two years we would be without clover—one of the best fertilizers known to agriculture. Few bumble bees live over the winter, and their number is not sufficient to fertilize the first growth of clover, as not more than 5 per cent. of the first crop has seed; but by the time the second crop comes on, the bees have increased, and as a consequence we get seed, with suppling clover.

Lost 50 Colonies.—The Flint *Globe* remarks as follows: "W. Z. Hutchinson, of Rogersville, lost about 50 colonies of choice bees during the late winter, leaving him about 25 colonies. He has already ordered enough to increase his stock to about 90 colonies. Mr. Hutchinson believes the honey market will be active and prices good, owing to the enormous losses during the past season, and hence he does not hesitate to reinvest."

Apis Dorsata, says the *L'Apicoltore* of Italy, is not so much to be dreaded, after all. It is not more aggressive than the Italian bee. The editor adds: "A learned naturalist traveller will publish a description of the bees of India, which will rectify many errors chiefly concerning the *Apis dorsata*, which has certainly been mistaken for some large wasp of that country. The *Apis dorsata* is not any more aggressive than our Italian bee. The specimens which he has sent to the Museum of the Apicultural Society of Milan, especially the males, are very fine; all the body is of a clear yellow, including the antennæ; the head and the eyes are white."

C. H. Dibbern, in the *Western Plowman*, remarks thus: "The foolish story started by Prof. Wiley as a 'scientific pleasantry,' that honey-comb was now made in Chicago by machinery, filled with glucose and neatly sealed up by passing a hot iron over it, and sold for 'pure honey,' has long been exploded; but is still being persistently repeated. Those of us who have ever made a pound of foundation know how utterly impossible it would be to accomplish this feat. If it could be done it would not resemble comb honey, and could not be used to deceive the most unwary. Comb honey never can be successfully imitated by any scientific methods."

Bee-Keepers in Germany.—From September 9 to 15, the annual meeting of the Austro-German Central Bee-Keepers' Association, will bring together 400 to 500 members. Mr. Lehzen, of Hanover, enumerates the associations in Germany and the number of members in each one, as follows: "Central of Gumbinen, 488; Circle of Siegen, 500; Baltic Central (in Pomerania), 950; Central of the Province of Hanover, 1,300; Central of the Marches, 900; Central of Schleswig-Holstein, 400; Seven United Associations of two Hesses, etc., 1,200; Central of the Great Duchy of Saxe-Weimar and neighboring country, 380; Central of the Provinces of Saxony, Thuringe, and States of the Grand Duke of Anhalt, 1,200; Central of Mechlemburg, 600; Central of Bromberg, 500; Baden, 1,700; Cammin, 3,500; General of Silesia, 2,242; The German Club of Frankfort upon Main, 2,242. Total, 16 principal groups, numbering 15,880 members—all readers of progressive periodical publications." How do these figures appear when contrasted with American bee-keepers? We have many more apiarists than Germany, and yet not a quarter of them pursue progressive methods, read a bee-paper, or attend bee-keepers' conventions. We have the territory, the flora, and the bees, but the *bee-killers* here outnumber the practical and progressive, and when they do not kill the bees by their mismanagement, they ruin the honey markets by their ignorance and indiscretion.

The White Sulphur Springs, situated in Frederick County, Virginia, is a summer resort conducted by Mr. E. C. Jordan, one of the most enthusiastic bee-keepers of Virginia, and is open from June 1st to Oct. 15. We have received several pamphlets setting forth the value of the use of those mineral waters. If any one desires to obtain a copy of it, they may be obtained at this office, or of Mr. Jordan, at Stephenson's Depot, Va. Honey is abundantly supplied on the tables for guests.

Bees and Peaches.—A correspondent in the *London Garden*, from Wales, remarks as follows: "I know of no better way of securing a heavy crop of peaches and nectarines, than by putting a colony of bees in the house when the trees are in bloom. This has been my practice for several years past in the case of a house in which the trees come into flower in March, and the result is always satisfactory. When the bees are in the house, we never brush the flowers or shake the trees in the hope of fertilizing the flowers; this work is left entirely to the bees, and they do it effectually. I have thinned 900 small nectarines from a tree which covers a piece of trellis 4 yards square, and several hundred more will have to be taken off before the crop is a safe and ordinary one. This, I think, is proof enough as to the advantags of employing bees, and those who think such work does the bees harm make a great mistake, as they thus get a supply of food before it is plentiful out-of-doors; and I have noted that I have for 2 years secured my first swarm and earliest-filled sections from the peach-house bees. I may add that I have a good many colonies of bees, and in my opinion they are useful in a garden at this season, and when managed on the movable-frame system, they are both interesting and profitable."

Wild Bees in Oregon.—The Portland *News* mentions the following incident: "A short time ago Samuel, Asa, and Joe Holaday, of Scappoose, took a trip over to the Lewiston river, in order to look into the resources of that region. They found it a most beautiful country, and one that offers many inducements to settlers. The part visited lies off in the direction of Mount St. Helena, and is composed of both timber land and fine open tracts which abound in game, large and small. While encamped on the river, they discovered an object that was as novel and interesting as it was beautiful and striking. In their rambles through the pine woods, they suddenly came upon a fallen tree across the path which, on inspection, they found to be hollow. Through a knot-hole they could see something white, and at once began to investigate. They sawed into the log and were surprised to find that the whole interior of the log was filled solidly with honey. They at once brought from their camp some of their vessels to fill with this sweetest of all nature's productions. Their buckets and pans were soon filled. Then they sawed off another length of the log, and found it still solid with the honey. This they repeated and took from it honey until they had opened up 10 feet of pure, lovely honey; which yielded a comb that was in many places 4 inches thick. Of this find they carried away 180 pounds, which they declared was the finest they ever tasted, being far richer than the tame honey which they produce."

QUERIES

WITH

REPLIES by Prominent Apiarists.

Prevention of After-Swarms.

Query, No. 67.—Briefly stated, what is the best method of preventing after-swarms?—J. L. A.

G. W. DEMAREE remarks thus: "Put the hive containing the new swarm on the old stand; move the old hive to a new location, and supply the exhausted colony with a virgin queen at least one day old. If the young queen is a lively, smart one, she will take care to destroy all queen-cells."

DADANT & SON answer as follows: "The best prevention of after-swarms is to prevent swarming."

PROF. A. J. COOK answers thus: "Cutting out all queen-cells but one answers well. Mr. Heddon's plan is also good."

W. Z. HUTCHINSON remarks thus: "I prefer the Heddon method."

G. M. DOOLITTLE answers: "Wait 8 days after the prime swarm has issued, at which time (as a rule) the first young queen will be hatched. Now cut off all queen-cells and you have a sure thing of it. In finding a queen-cell open at the end, you have the assurance that one queen is at liberty."

JAMES HEDDON remarks thus: "My plan, as given on page 458 of the BEE JOURNAL for 1884, is as follows: Let us suppose that colony No. 14 swarms June 14. With a non-erasive crayon we mark upon the hive, O, June 14, and on the hive in which we put the swarm, S, June 14. Thus, we distinguish the old colony from the swarm at a glance, as we make these marks in large figures. When we hive the swarm (always on full sheets of wired foundation), we place it close on the north side (our hives front the east) of the old colony, with the entrance turned northward, away from the old colony, about 45°. As soon as the swarm is well at work, having their location well marked (say two days), we turn the hive around parallel with the old colony. Now both hives face east, setting side by side, and close together. Sometimes, however, being governed according to the size of the swarm, as compared to the number of bees left in the parent colony, we place the newly-hived swarm on the old stand, putting the old colony through the process above described. In fact, we do this most of the time. Now, you will remember, that while each colony recognizes its individual house, they are, at the same time, as regards all other colonies in the yard, practically in one location, or on one stand. Now, the dates on the back ends of the hives plainly indicate that second swarming will take place in about 8 days. In about 6 or 7 days (according to the season or weather) after this date on the hives, we remove the old colony to a new location. As we do this at such time of day as most bees are in the field, this depopulates the old colony, giving the force to the new, leaving too few bees for the young misses to divide, and as they at once recognize this fact, they fight it out on the line of the 'survival of the fittest.' It may be proper, just here, to say a few words regarding how we manipulate the surplus departments of these two hives, as it may have something to do with the object in view. Let us suppose that, at the time of swarming, that the old colony was working in three 28 one-pound section-cases. Suppose the upper one to be ¾ completed, the middle one about ½, the lower one just started. We will put two (which two, only the minor circumstances in the case can decide) on the swarm when first hived, leaving one, and, sometimes, we get another to put with it, on the old hive. Perhaps this surplus room on the old colony also has a tendency to prevent swarming."

* * *

Bees Moving in the Cluster.

Query, No. 68.—Do bees ever move from the outside to the inside of the cluster, and vice versa, to get food, after they have once clustered for winter?—W. M.

MESSRS. DADANT & SON reply: "They do not move, but they give honey to one another; *i. e.*, the bees which are near the honey give to those under them, and they pass honey this way to the last bees of the cluster."

G. W. DEMAREE says: "I have never at any time examined bees without seeing evidence of change of position of individual bees in the cluster; but I do not think that this is necessary to obtain food. The food is evidently 'handed around' by the bees."

PROF. A. J. COOK answers thus: "They are constantly on the move."

G. M. DOOLITTLE replies: "Some seem to suppose they do, but from careful watching I have failed to find anything which would warrant my coming to such a conclusion."

JAMES HEDDON remarks as follows: "I am not positive about that, as I have never investigated the matter, but it is claimed that they do, and the claim is a reasonable one. They must either do this or feed one another."

* * *

☞ To create Honey Markets in every village, town and city, wide-awake honey producers should get the Leaflets "Why Eat Honey" (only 50 cents per 100), or else the pamphlets on "Honey as Food and Medicine," and scatter them plentifully, and the result will be a DEMAND for all of their crops at remunerative prices. "Honey as Food and Medicine" are sold at the following prices:

Single copy, 5 cts.; per doz., 40 cts.; per hundred, $2.50. Five hundred will be sent postpaid for **$10.00**; or **1,000** for **$15,00.** On orders of **100** or more, we will print, if desired, on the cover-page, "Presented by," etc. (giving the name and address of the bee-keeper who scatters them).

Convention Notices.

☞ The Bee-Keepers' Association of Central Illinois will meet at Bloomington, Ills., on July 15, 1885, at 10 a. m.

WM. B. LAWRENCE, Sec.

☞ The Mahoning Valley Bee-Keepers' Association, will hold its next meeting at Newton Falls, Ohio, on Thursday, June 5, 1885. E. W. TURNER, Sec.

☞ The Willamette Valley Bee-Keepers' Association will hold its second meeting at La Fayette, Oregon, on the third Tuesday in June, 1885. All who are interested are invited to attend. E. J. HADLEY, Sec.

* * *

Honey and Beeswax Market.

Office of the AMERICAN BEE JOURNAL,
Monday, 10 a. m., May 25, 1885.

The following are the latest quotations for honey and beeswax received up to this hour:

CHICAGO.

HONEY.—Demand is light and receipts are also light. Prices range from 10@15c. for best grades of comb honey, and for extracted, 5@7c.

BEESWAX.—Best grade weak at 28c.

R. A. BURNETT, 161 South Water St.

BOSTON.

HONEY.—We quote the following prices: Fancy white comb in 1-lb. sections, 16@18c.; the same in 2-lb. sections, 15@16c; fancy white California 2-lbs., 12@14c. Extracted weak, 6@8c. Sales very slow.

BEESWAX.—32 cts. per lb.

BLAKE & RIPLEY, 57 Chatham Street.

NEW YORK.

HONEY—Present sales of comb honey are very slow, and owing to the lateness of the season, we do not anticipate any change in prices until the new crop commences to arrive. We quote at present as follows: Fancy white clover in 1-lb. sections, 14@15c; fair to good white clover in 1-lb. sections, 12@13c; fancy white clover in 2 lb. sections, 13@14c; fair to good white clover in 2-lb. sections, 11@12c; fancy buckwheat in 1-lb. sections, 9@10c; fancy buckwheat in 2-lb. sections, 7@8c. Ordinary grades, no sale. Extracted white clover, 7@8c; extracted buckwheat, 6@6½c.

BEESWAX—Prime yellow, 32@33c.

MCCAUL & HILDRETH BROS., 34 Hudson St.

CINCINNATI.

HONEY—There is no new feature in the market. Our regular customers only are buyers at present. There is almost no outside demand, and low figures are no inducement. We quote extracted honey from 5@8c on arrival, and comb at 9@12c.

BEESWAX—Good demand and arrivals plentiful. We quote 24@28c for good yellow on arrival.

C. F. MUTH, Freeman & Central Ave.

SAN FRANCISCO.

HONEY—Market very quiet. Choice extracted is the only kind which buyers at present care to purchase in a wholesale way, and there is little of this sort offering. No new crop honey has yet arrived; none expected for several weeks. White to extra white comb, 8@9c; dark to good, 4@7c; extracted, choice to extra white, 4¾@5¼c; amber colored, 4¼@4¾c.

BEESWAX—Quotable at 25@62c—wholesale.

O. B. SMITH & CO., 423 Front Street.

ST. LOUIS.

HONEY—Steady; demand and supply both small. Comb, 12@14c per lb., and strained and extracted 5½@6c.

BEESWAX—Firm at 32@32½c. for choice.

W. T. ANDERSON & CO., 104 N. 3d Street

CLEVELAND.

HONEY—Since our last report there has been a little better demand for honey, and some sales have been made at 13½@14c for best white honey in 1-lb. sections. Second quality is still very dull at 12@13c. Extracted is not salable at any price in our market.

BEESWAX.—Scarce at 28@30.

A. C. KENDEL, 115 Ontario Street.

KANSAS CITY.

HONEY—Demand for choice white comb in ½, 1 and 2-lb. sections is good, and prices fairly maintained. Half pound sections, 15@16c; 1-lb., 13@14c; 2-lb., 10@11c. Extracted slow at 5@7c. We could sell some ½-lb. sections of comb honey and a few more nice white 1-lb. sections.

BEESWAX—25@30c., according to quality.

CLEMONS, CLOON & CO., cor. 4th & Walnut.

SAN FRANCISCO.

HONEY—We quote comb honey in 2 lb. sections 13@14c; extracted, 6½c.

GEO. W. MEADE & CO., 213 Market.

CORRESPONDENCE.

Explanatory.—The figures BEFORE the names indicate the number of years that the person has kept bees. Those AFTER, show the number of colonies the writer had in the previous spring and fall, or fall and spring, as the time of the year may require.

This mark ⊙ indicates that the apiarist is located near the centre of the State named: ♂ north of the centre; ♀ south; O+ east; +O west; and this ♂ northeast; ⌐O northwest; O⌐ southeast; and ♀ southwest of the centre of the State mentioned.

For the American Bee Journal.

Beautiful Spring Time.

J. C. STODDARD.

Birthday of the seasons, welcome!
  To me, three score and ten,
Thy happy charms revive us,
  With the cheer of the twittering wren.
Vernal beauty reigns supreme,
  Fragrance floats in every breeze,
Wavy zephyrs chant in chime
  Their salute to all the trees.

Sunbeams glint on wavy ferns,
  Piercing through the thickest shade,
Warming well the dark, cold pines,
  Kissing the wild flowers of the glade.
Nature's hosts hold high parade—
  The trumpeters are on the wing,
The oriole pours forth its joy,
  And all the birds proclaim the spring.

Welcome the spring! thy sounding joy!
  Welcome time of budding bowers,
Welcome are thy storms and shines
  That usher in the reign of flowers.
Wild geese pipe their songs o'er head,
  Their trombones are all in tune;
Arbutus flings his fragrance up,
  A bouquet of sweet perfume.

The honey-bee, God's gift to man,
  Is out in force each lovely day,
Kissing each sweet and lovely flower
  Until the daylight dies away.
Pile it in! four pounds each day,
  Dear little busy honey-bee!
So when you've got your house brimful
  We'll share with you, and taste and see.

The frogs have held their breath so long,
  Down in the mud so deep, poor things,—
A cheerful racket now they make,
  They, too, would fly—had they the wings.
Maidens out in fields and dells;
  Children shout with springlike tone,
Decked with flowers and sweet bouquets,
  For Spring is queen upon her throne.

The dandelion's golden eyes
  With seeds of downy feather,
Starring hills and pretty lawns
  In summer's showery weather.
Little fishes in the frolicking brooks,
  And sportive grassy glens,
And foaming waterfall—their Minnehaha—
  Where aslant the shady elder bends.

Violets catch the dew-drops clear,
  Daisies proud in silver frills,
Star flowers innocent and bright,
  King-cups drink the dews of hills.
Spring hath wrought her wedding-veil,
  For Summer hath engaged her—certain,
In Flora's beauty she's now decked,
  Gracefully she retires behind the curtain.

—*Springfield, Mass.*

For the American Bee Journal.

What Causes Bee-Diarrhea?

16—G. M. DOOLITTLE, (40—80).

On page 246, under the above heading Mr. W. Z. Hutchinson writes and closes by saying that "perhaps it is a mistake in attempting to keep bees out of their native clime." In this sentence he gives just the cause of bee-diarrhea. His first proposition, "Bee-diarrhea is the result of an overloaded condition of the intestines," is certainly correct, and his last, as applying to the cause, is equally correct; while what he assigns as the cause cannot be correct, at least as it seems to me. The "native clime" gave bees the chance of flying every few days, thus preventing the "overloading of the intestines," and the thing which took this privilege of flying away from them is the cause of our Northern wintering trouble. In the language of Mr. H., I think that "the stupidity exhibited by some" regarding this confinement part of it "is truly amazing." I say (using Mr. H's words again), "let some one produce a case of bee-diarrhea without the use of"—confinement. It seems to me to be perfectly plain that bringing bees into our Northern latitude is the cause of all our trouble, and that all matters of food, ventilation, dampness, etc., are only secondary causes; for Mr. H. tells us that the reason why "bees in warm climates are free from diarrhea is because they can enjoy frequent flights;" hence the taking away of these frequent flights must be the cause.

On page 244, Mr. G. W. Demaree says, "The trouble is wholly incident to long, cold weather;" while Dr. Tinker says, on the same page, "When bee-keepers shall recognize the fact that cold is the prime cause of our winter losses, we shall get down to successful wintering, and not before." So, then, as the cause of diarrhea, we have first the bringing of bees from a warmer clime to a cold one; second, cold the cause of confinement; and third, confinement the cause of bee-diarrhea. Although Mr. H. says there can be confinement without diarrhea, I wish to put it on record as saying that if that confinement is long enough, every colony of bees thus confined will perish with diarrhea no matter what their food may be, providing they have enough so they do not starve.

To those who claim that the food has all to do with it, I wish to quote still farther from Mr. G. W. Demaree, where he says: "Of course many things may conspire to shorten or lengthen the struggle for existence. Bad food, damp, unwholesome quarters, weak constitution, etc., may make the struggle short, and the reverse of these may make the hanging on to life long and tedious. But the end will come if there is no return of the sunshine—no 'flash' of the 'wing' in the balmy air." Four years ago (after our great loss), I placed on record, in the BEE JOURNAL, a prophecy "that after every long, cold winter we should hear of great mortality of bees," and the reports of to-day but confirm that prophecy.

Now I wish to notice one other sentence in Mr. H's article, where he says, "It will be seen that there can be no diarrhea if there is no pollen." While Prof. Cook found, by the use of the microscope, a few grains of pollen in the bottom of the cells of the piece of comb which I sent him (as I gave on page 197), still it will be remembered that not one bee in five, which had the diarrhea so badly as to foul and besmear the hive and combs, had any pollen in its intestines. Since that colony died, I have also lost 3 more with diarrhea, which had only sugar syrup for stores; at least that was all I could detect by a careful examination last fall. Prof. Cook's finding pollen grains under the syrup, a few in each cell, only shows that there is sticking to the combs which all would pronounce absolutely clean, a little pollen. It also proves to a certainty that no experiment can be conducted by which no pollen can enter into it, except by shutting up the bees, after which they are to be given sheets of foundation and fed sugar syrup. Hence, I say that I have proven that bees can have the diarrhea and die with it, where they *practically* have no pollen, and that with 4 different colonies—2 wintered in the cellar and 2 on the summer stands.

Dr. A. B. Mason (on page 249), wants all who have honestly tried to winter bees with sugar syrup and no pollen and have failed, to give the minutia of the experiment; in this article and the one on page 197, he will find one who has failed; who, if I know my own motives, tried honestly, because I certainly would not have taken all the pains I did to kill some of my best colonies, say nothing of my most valued queens.

Again, Mr. W. N. Howard, on page 261, reviews my article on page 197, and after making some wrong conclusions, which could not be deduced from my article, says: "How the facts of this case can annihilate the pollen theory, I cannot see;" but he forgot to add that I said it was the practical part that was annihilated. The theory is of no value only as it can be made practical by the yearly use of it by the bee-keepers of the United States. The reasons why it cannot be made practical are these: 1. The author of the theory claims that there can be enough floating pollen in the honey to cause the bees to have the diarrhea. This makes it impractical to the majority of bee-keepers, for whatever else may be said, the bee-keepers of the United States are not going to take away all stores of honey and replace it with stores of sugar. 2. By the latest reasoning on this theory, it would seem that if ½-dozen cells of pollen should happen to be left in a hive, the bees would be liable to get the diarrhea and perish, even from that small amount, say nothing of bees perishing by the disease where the amount was so small that it took the microscope to discover the few pollen grains in the cells under the honey. Hence it is not practical to the masses, for few of us have the time to look thus closely for pollen. 3. All of our most practical bee-keepers tell us that the month of September is the time to prepare our bees for winter, which I claim to be correct. As bees in most localities can get pollen for several weeks later than this, it makes it (the theory) of no practical use on account of the bees being liable to get a taste of pollen after we have carefully excluded every bit, even using the microscope. Prof. Cook thinks that, perhaps, the bees that I sent him, in whose intestines he found plenty of diseased excrement, but no pollen husks, might have collected meal late in the fall, which would act the same as pollen regarding brood-rearing and diarrhea. For these three reasons, if we would be sure no pollen or meal was in the hive, we must wait about our preparations for winter until it is so late in the season that the syrup fed could not be sealed over; in which case it would be worse than plenty of pollen.

I could give other reasons, but the above are abundantly sufficient to convince any candid mind that whatever else is said of the pollen theory, it is annihilated as far as practicability is concerned.

Borodino,⊙ N. Y.

For the American Bee Journal.

Bee-Notes from Mississippi.

OSCAR F. BLEDSOE.

My experience gained during the past winter teaches me the valuable lesson that bees need shelter both for winter and summer here in the South—in winter, from the sudden changes and severe spells; in summer, from the extreme heat. Hence, I have erected sheds for my hives. They face south—the hives under them in two rows, one facing south the other north. The sheds are tall enough to enable me to walk under them—are covered with boards, and are open except that the north side has planks nailed on for three feet high beginning one foot from the ground.

Each shed holds 25 hives. My bees thus have all the protection they need in winter and summer. In summer, as the sun becomes perpendicular, the south-side hives have perfect protection from its heat, while enjoying its warmth in early spring. In winter, the space between the rows of hives is to be filled with straw or leaves—thus enabling the bees to economize food and heat, and come out stronger and swarm earlier in the spring. My bees suffered considerably during the past winter, a number of nuclei having perished, though no full colony failed to come out well.

Between the sheds described above, I plant peach trees and strawberry plants. The peach trees furnish some shade, though not enough to impede the flight of the bees. The strawberries are planted in checks—2 feet apart—and the ground is kept perfectly level and free from weeds by the use of a wheel garden-cultivator. The fruit produced pays me for keeping my grounds in perfect order. I enjoy looking around my apiary and beholding at the same time beautiful yellow Italian bees, fine Charles Downing or Wilson strawberry-plants and Chinese Cling or early Beatrice, or Early Hale peach-trees loaded with fruit. Is there any other pursuit that can combine so much of the æsthetic in it as bee-culture, and at the same time the "utile cum dulce" to an equal extent?

Taking it all in all, I am encouraged in bee-culture here in the South, and propose to push it to as large results as I am capable of doing.

Grenada,♂ Miss.

Honey Crops of California.

The following is taken from the last weekly bulletin of prices by Messrs. O. B. Smith & Co., of San Francisco, Calif., which will doubtless be interesting to many:

Number of cases received in this market during the past six years:

DATE.	1879	1880	1881	1882	1883	1884
January	1,640	295	1,758	176	605	88
February......	2,419	22	989	68	393	167
March	1,273	128	334	420	34	144
April	943	44	771	684	200	250
May	398	737	121	213	287	254
June	232	2,952	202	669	631	690
July	32	2,808	662	1,053	948	2,047
August	110	4,883	833	2,613	2,151	4 009
September	115	7,027	1,428	3,592	3,177	6,887
October	261	3,322	1,661	2,750	2,446	10,208
November	711	2,160	998	1,068	1,253	5 140
December.....	308	2,404	901	1,183	1.679	4,381
Totals	8,442	26,782	10,658	14,489	13,804	34,265

Receipts in barrels and kegs for the past five years:

	Barrels.	Kegs.
1880	1,156	126
1881	456	84
1882	291	23
1883	3	2
1884	485	....

Receipts from January 1st, 1885, to date: 10,664 cases and 45 barrels. Exports for the past 6 years by sea and land from San Francisco, and by rail from interior points have been:

	By Sea from San Francisco.		By Rail from S. F. and interior.
	Cases.	Pounds.	Pounds.
1879.........	13,675	....	214,216
1880.........	7,890	150,806	861,050
1881..... ...	8,849	62,700	378,370
1882.........	3,612	....	527,680
1883.........	6,663	....	266,400
1884.	13,094	157,320	2,352,000

Of last year's shipments overland 1,033,640 lbs. were sent from San Francisco, 1,314,960 lbs. from Los Angeles, and 3,400 lbs. from Sacramento.

Exports for 1885 to date, by sea, 5,361 cases and 93 barrels from San Francisco; by rail, exclusive of shipments since March 1st, 474,700 lbs.

Since the first of June, last, receipts have been 44,206 cases, and 485 barrels. Allowing one-third of the cases to have been comb honey, we have the following showing in pounds:

	Pounds.
Extracted—29,351 cases.........................	3,622,120
Extracted—485 barrels.........................	174,600
Comb—14,675 cases	880,500
Shipped by rail from interior............	1,641,450
Total.......	6,318,670

The above total does not include stocks consumed or still held in the interior, or shipments by sea from Southern coast points. These are unknown quantities, and presumably larger than ordinarily, on account of last season's heavy yield. There is knowledge, however, of over 4,000 cases being shipped direct by sea from the Southern coast. Assuming the unknown quantity the past season, to be no more than it was in 1883, last year's yield is shown to be 4,931,130 lbs. in excess of the preceding season, or nearly five times as large, and is believed to be the heaviest crop ever gathered in California, the only yield approaching it in volume being that of 1878.

Prices the past season have ruled low. The wholesale range on extracted may be stated as having been 3 and 5 cts. Some sales of common were made under 3 cts., and a little extra choice has been placed at a fraction over 5 cts. The main range of values on comb honey was 5 and 10 cts., although early in the season as high as 14 cts. was realized for some of very fancy quality. There is no way of arriving at stocks still on hand here and in the interior, but judging from the large quantity produced and the low prices which have been current, it is not unreasonable to presume that there is a considerable amount of last year's honey remaining in the State.

Advices as to the coming crop, although a little conflicting, in the main are to the effect that the yield will be light. Even though the amount of honey produced this season be unusually small, prospects are not encouraging for very high prices, as sugar is to-day lower than it has ever been, and other articles with which honey has to come into competition, are all abundant and cheap.

For the American Bee Journal.

Ventilation and Temperature.

WM. F. CLARKE.

The best thanks of all intelligent bee-keepers are justly due to Mr. Heddon for his article on "The Wintering Problem," on page 213, which I have read, re-read, and deeply studied with great interest. Nevertheless, I am obliged to confess that it has not converted me to what is now technically known as the "pollen theory." What a difference one's stand-point makes in looking at a subject! While Mr. Heddon is rejoicing over his article as a clear demonstration of his "pollen theory," here am I puffing away at the pipe of contentment over it, and saying to myself, "How completely it all dovetails in with the theory of hibernation!" And this, notwithstanding Mr. Heddon joins in chorus with Prof. Cook and Dr. Southwick, and oracularly declares, "Bees never hibernate!"

By the way, how is it that Mr. Heddon has been able to find out so fully the condition of his bees, and report it in time for the BEE JOURNAL for April 8? In the arctic region where I live, there has not been a day since November when bees could fly freely. Talk about bees doing well in a uniform temperature of 45°! The mercury has hardly once reached that point here, in the shade, all winter. Only twice has it gone beyond that figure, in the sun, since Jan 1. On both occasions, my bees came out, sniffed the outer air a little while, and beat a hasty retreat into their hives—those of them that could manage to get there. I had only 2 colonies to experiment with; one of them succumbed to the last cold spell in March—the other is alive, but in a bad condition with diarrhea, and will, no doubt, "spring dwindle" to nothing. In my anxiety to give plenty of ventilation, and not counting on so severe a winter, I overdid the air-supply, and before reading Mr. Heddon's article, I had made a memorandum in my note-book as follows: "Bees need but very little ventilation, if the air they get is *pure* and *uniform*."

Before Mr. H. laughs too loud and long at the audacity and absurdity of my claim that his conclusions fit in with the theory of hibernation, permit me to boil the whole thing down. He tells us that if bees are kept in the right temperature to induce that state of quietude which we all admit to be desirable, they will not eat pollen to any excess. They may possibly use a little for making chyme, but "they will not take bee-bread into their intestines." It is when the hive becomes so cold that they are obliged to stir around and get up heat by exercise, that there is waste of tissue which compels "the consumption of tissue-making food (nitrogenous food), bee-bread." It seems to me that this harmonizes exactly with my theory. I have said, over and over again, let us find out the temperature necessary to keep bees in that state of torpor or semi-torpor in which they will consume the minimum of food, and they will not contract diarrhea. I have supposed they might use a little pollen even in that condition, and Mr. Heddon seems to grant this in his allusion to chyme, also in the admission that various colonies had wintered fairly well, though they had taken some pollen. I said this in my essay, at the Rochester convention: "But whether honey or pollen, if they eat more than they can excrete without fouling the hive, diarrhea is the sure and fatal result." Mr. Heddon's experiments compel a modification of this. That large number of colonies which he reports as having died without any evidence of diarrhea, succumbed directly to the cold. There was no nitrogenous food to repair the tissue wasted by the exercise compelled to get up heat, so when their resources in this direction were exhausted, they were speedily killed by "cold, too long continued." I should say that they died from inability to hibernate. Mr. Heddon says what amounts to the same thing. It became so cold in the hives that they could not keep still; they were unable for any prolonged time to get up heat by exercise; hence, they gave up the ghost. This boiling-down of the main facts rather detracts from the scientific air of Mr. Heddon's narrative, but the essence of it is all there.

I and others who do not believe what is now so widely known as "the pollen theory," have maintained that excessive feeding during winter was the great cause of diarrhea, but we were unwilling to believe that pollen alone was in fault. Early in this controversy I held that if the conditions of safe wintering were right in other respects, the instinct of bees would be a safe guide—what food to eat, whether honey or pollen, and how much of it. Mr. Heddon now virtually takes this ground, and thereby upsets his theory. These are his words: "If colonies of bees are kept in a room whose temperature never goes below 45° (in some cases I might put it lower), *they will not take bee-bread into their intestines*, whether they use it for making chyme or not." One would naturally reply to this that it is only necessary to regulate the temperature, but Mr. Heddon knows very well that 45° has often been prescribed for the temperature of bee-houses and cellars; but notwithstanding this, diarrhea has often broken out in these repositories. To account for this fact, Mr. Heddon says: "If the honey which the hives contain, is of good wintering quality, that is, very free from floating pollen, this will be all the precaution necessary to insure safety. If, on the other hand, the oxygen stores contain a goodly quantity of nitrogen, *via* floating pollen in the honey, the bees may have the diarrhea, and this is the reason that disease has been experienced in warm cellars. If the pollen is diffused throughout the honey in considerable quantity, it will get into the bees' intestines and accumulate in larger quantities than the bees can hold, and their instincts to do this will cause the disease."

Most of the paragraph just quoted is mere supposition, and I must bluntly say that I do not believe it. I have more faith in natural instinct than to think that bees will eat pollen by accident. Surely they will not take it unless in some way an appetite is created for it. Granting for the moment Mr. Heddon's theory, and that the bees are not rendered hungry enough to need such strong food as pollen, will they not reject it? In taking the honey, must they also consume the pollen that floats in it?

Right here comes in the question as to the dry feces, and I do not hesitate to say that if Mr. Heddon and Prof. Cook will take the same pains with them as they have done with the wet feces, the "pollen theory" will get its *quietus*. It is undeniable that there is a dry, powdery substance deposited on the bottom-boards of hives during the winter confinement of bees. Following the lead of Father Quinby, I have maintained that this dry powder is excrement. Further, I have held that when bees void their feces in this dry state, it is one of the best evidences that they are wintering well. My experience this winter has confirmed this view. As long as my bees were able to keep in that quiet state which I have called hibernation, this dry deposit fell from between the combs; when the "cold long-continued" compelled exercise and feeding in excess, they got the diarrhea. I agree with most of what Mr. Heddon says about "cold, long continued."

Now I ask Mr. Heddon and Prof. Cook to tell us what this dry powdery deposit *is*. If it is not feces, it is rejected grains of pollen and other impurities which the bees found floating in the honey. Let Prof. Cook examine this dry powder with a microscope, and he will find that it largely consists of pollen. It is not pollen exclusively. What there is beside pollen, I have supposed to be the excremental remains of honey.

If this powdery matter is dry feces, then bees do eat pollen largely in confinement, without necessarily retaining the waste matter in their intestines till a chance offers for flight, or else become diseased, and then the trouble arises from their eating more and oftener than can be voided in a dry state, which is, of course, a slower process than that of voiding in a wet state. Accumulation of wet feces, will soon result in diarrhea.

If, on the other hand, this powdery stuff is not dry feces, but rejected pollen and other impurities found in the honey, it is proof that the instinct of the bees is a sufficient guide, what and how much to eat, unless they are forced by extreme cold to devour more food than can be retained in their intestines during long confinement.

Mr. Heddon can impale his pollen theory on either horn of the dilemma here presented, but one or the other will certainly be fatal to it. The whole problem resolves itself into a question of ventilation or temperature. Find the temperature in which bees will be so quiet and comfortable that they will not have to consume food, whether honey or pollen, in excess, and you have solved the difficulty without any need of picking pollen out of the cells with toothpicks, or preventing its being stored by that readier method which Mr. Heddon promises to disclose.

Speedside, Ont.

For the American Bee Journal.

Methods of Curing Foul Brood.

L. C. WHITING, M. D.

I want to say a word about foul brood. I would not give one cent for all the medicine in the world to be fed to a colony of foul-broody bees unless you take away all the combs and honey and give them a clean hive. If that is done, experience proves that it is not necessary. The plan adopted by Mr. D. A. Jones is successful, economical, and within the capacity of the average bee-keeper.

I do not believe that any man can rear queens from a foul-broody colony and make the price of the salt in his dinner. I should not want to use such queens; not from fear of foul brood, but for the lack of vitality in them. I do not believe that there is a bee-keeper in the United States mean enough to sell queens from such stock; but if they were caged on sugar candy, and free from foul-broody honey, experience would lead me to believe that there would be no disease developed from them.

Shake your bees into a box or hive, keep them two or three days shut up without food, then put them upon full frames of foundation in a clean hive, and they will be free from disease unless they get some of the old honey or contract the disease from some other colony. If the old hive, combs and honey are heated to the boiling point, all the germs will be destroyed.

East Saginaw, Mich.

For the American Bee Journal.

Alfalfa—California Honey-Plant.

W. A. PRYAL.

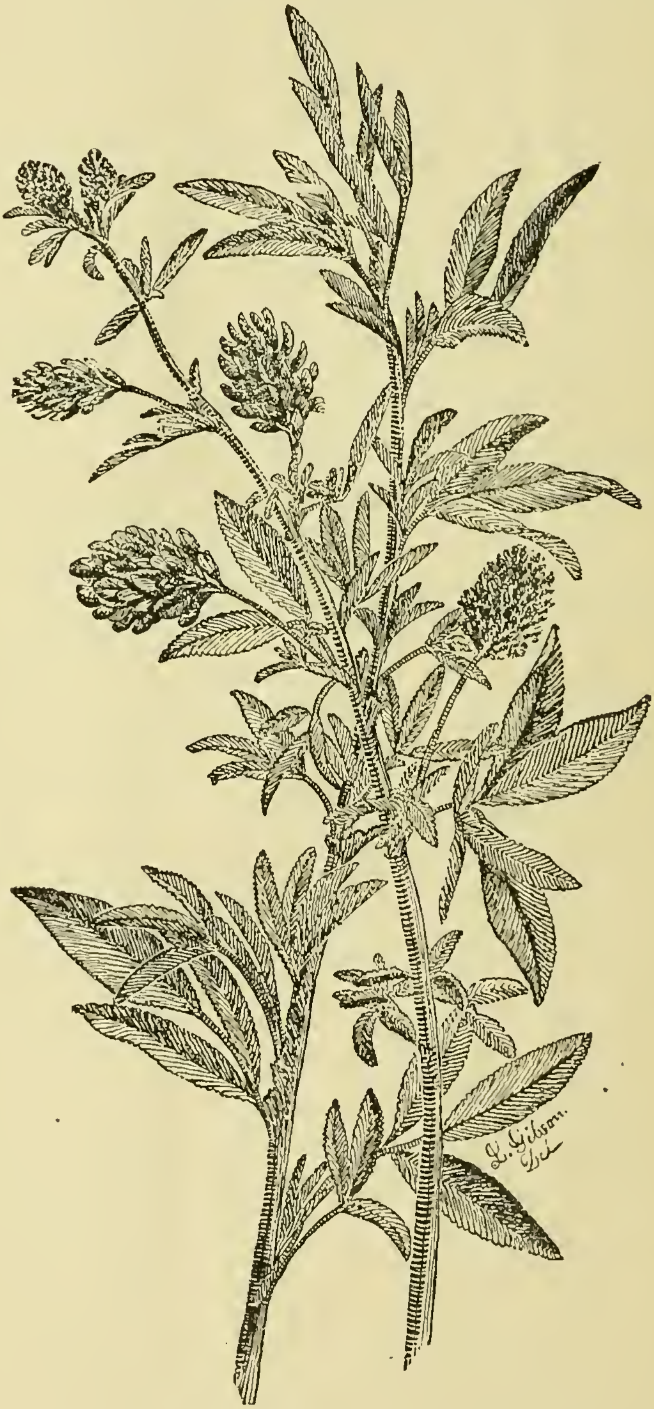
On page 51, reference is made to the above plant, and classes it, according to *Landreth's Rural Register*, as *Medicago sativa*. The illustration given heretofore was on such a small scale that but an imperfect idea could be formed of the flower. The sketch of this plant herewith shown was made in California from a natural flower, and can be relied upon as being a good illustration of the flower as it blooms in that State, and where it is a boon to the bees during a "dry year."

It is now many years since alfalfa was first introduced into the Pacific States, from Chili, where it has been cultivated for years. Thousand of acres of it are grown in the valleys of the Golden State, most of which is irrigated by artificial means, thus enabling the owners to cut as much as four or more good crops a year. The hay is considered very valuable for cattle and sheep. A considerable quantity of it is used at the cattle yards to feed the stock preparatory to killing. Swine, horses and sheep are also fond of it. Where the last crop is allowed to seed, the bees fairly hold a jubilee in the fields of blue flowers of this alfalfa. We have heard that in the lower central counties of California, where are to be found large tracts of it, the bee-keepers who have their bee-ranches located away up in the mountains, remove their colonies to the alfalfa regions. We have a case in mind where large yields were reported in the fall months from this source, but cannot now refer to the item. We should have been pleased to have quoted from this particular report, as it was remarkable, and would serve as an example of many more.

To show the readers of the BEE JOURNAL, who may be interested in this plant as pasturage for stock, we annex the following items:

Major Ketchum, of Stockton, Calif., stated to a representative of the *Pacific Rural Press*, in the fall of 1883, that he had about 20 acres of alfalfa on unirrigated land in San Joaquin county. He had kept on this alfalfa, which was sowed about March, 1878, from 75 to 100 head of hogs, 40 head of horned stock, and about 30 head of horses. The stock are turned into the field after the alfalfa has got a good start, and the field furnishes good feed until the grain [wheat in adjoining fields.—ED.] is cut—say the last of July or the first of August. "I find," said the Major, "no difficulty in getting a good stand, unless the spring is wet."

The next is that of an alfalfa farm run for the hay that can be cut for market purposes, and is the kind that gives the apiarist who chances to live nigh, a buoyant heart. It is situated in Bear River Valley, Yuba county, and consists of 140 acres, which was seeded five years ago. It is cut four times a year, and averages a little over 7 tons of cured hay to the acre. The hay is baled and sent to the mountains, and brings, when baled, $10 a ton. It nets about $7.50 per ton. This is something over $50 per acre for hay. In addition to this the owner estimates that the land yields him $6 per acre for spring and fall pasturage, making the total receipts of the whole crop, in the neighborhood of $56 per acre, or an income of about $8,000. The land is not irrigated nor fertilized. This sort of farming pays better than wheat-growing, where the whole winter is occupied in plowing and seeding, and the fall in harvesting; and after months of lobor and expense the toil-worn farmer finds that the bottom has fallen out of the wheat market. Not so with alfalfa; stock has to be raised to feed the people of the Pacific Coast, who are multiplying fast; the price of meat is going up rapidly, and the cattle-raiser is the coming millionaire. We say, "Go West young man" and raise alfalfa, cattle and honey, and be happy.



North Temescal, Calif.

For the American Bee Journal.

Building up Colonies—Swarming.

W. H. STEWART.

I believe that all bee-keepers are agreed that it is necessary to so manage each colony that the hive be well filled with bees by the time the honey-flow begins; and, also, that the colony be kept in that strong condition during the honey-gathering season.

It would not be a difficult matter for a skillful apiarist to work most of his colonies up to this condition, and to have them ready to secure the honey when it comes; but with most of us it is a difficult matter to maintain that condition, from the fact that just about that time the swarming-fever sets in; and although we may have the supers on, and the surplus work well started, young swarms are very liable to issue, and the parent colony thus becomes reduced in strength. It is for this reason that so many plans have been invented to prevent natural swarming. If I mistake not, all such plans have failed, and the bees swarm just about as often as they would if they were allowed to have their own way.

In this locality, the greater portion of our surplus honey is gathered from basswood, which comes in bloom early in July; that is also the time that the bees are in the height of their swarming. As an effort to prevent their swarming by any means yet discovered, is not only a failure, but attended with much extra labor, and consuming much valuable time just when one can least spare that time, I have, for the last two seasons, just allowed them to swarm, and at the same time so manage them that the parent colony is kept strong, and the storing of surplus goes right along as briskly as though no swarming had occurred.

I have not learned from the bee-books or papers, that any one is managing as I do, but in the reports of the many bee-conventions I read that Mr. A or B often asks the questions, "How shall we prevent our bees from swarming?" "How shall we prevent after-swarms?" My plan prevents after-swarms altogether.

When a colony is sufficiently strong, I put on the super, and put up one of the frames of brood from the brood-chamber; then place frames of comb or foundation on both sides of the comb of brood, and put a frame of foundation in the brood-chamber in place of the brood that I have carried above. The bees will commence work on the foundation given them below, and also in the surplus chamber, if honey is coming in. Thus far my management is not unlike that of some other bee-keepers.

When the bees are well started with their work in the upper story, I return the frame of brood to the brood-department, or if the frame of foundation given in its place is well drawn out, and eggs deposited in it, I give the frame to some weaker colony, which is thus rapidly built up to the required condition.

Now comes the swarming, and away goes most of the bees, taking the old queen with them, and what bees are left must care for the great amount of brood that is found in the brood-chamber; and as a matter of necessity, the work in the surplus apartment must be discontinued until a sufficient number of young bees can be matured to fill the places of those that made up the swarm. By this time the most of the honey-flow is past, and the parent colony is seldom found able to do more than provide for the coming winter; hence, many bee keepers remove the surplus department, cut out all queen-cells but one, to prevent after-swarms, and after the new colony has been at work a few days, give it to them, and look only for surplus from this new colony, which is not always sure to produce much, if any, from the fact that the best of the honey-flow may have passed before this new colony is ready to send a full force above.

To avoid this delay and liability of a failure to secure the entire honey-flow without the waste of an hour of time, I allow the swarm to issue, and when they are clustering, or after they have all clustered, I get them well clustered in my Shepard's hiving-box (as per Mr. Shepard's directions), then hang the box on the fence, a limb of a tree, or an empty hive will do, and then go to the parent colony, lift out and examine closely all the combs above and below, and destroy all the queen-cells except one or two on a single comb, place that comb with the adhering bees, in an empty hive, and give it also either two or three frames of empty combs or foundation. Now carry the old hive, with all the bees and combs, both upper and lower departments, with all combs except the one with the queen-cell, taken from them just as they were arranged before the swarm left it, place it in a new locality, and then hive the swarm in it.

The bees have now swarmed and are hived in a new locality, and in a few minutes are at work as earnestly, and apparently as well satisfied, as though they had been hived in an empty box. They have not lost an hour of time, and have lost only the few bees that have been taken with the single comb that contained the queen cell, and the few bees that were in the field at the time of swarming. This colony thus managed will continue the surplus work without abatement.

Now place the new hive containing the frame of brood and the queen-cell, on the old stand, and the returning bees from the field will, when united with those already on the frame of brood, be able to care for that amount of brood, and rear the young queen; and having so few bees, and a full sized hive, the colony will not attempt to cast an after-swarm, although there may be more than one queen hatched. The full colony in the new locality will not swarm again that season.

Having our bees thus arranged, we proceed with the work of extracting, and often find that a queen has deposited eggs in one or more combs in the upper department, and as these combs of brood are in the way, and as we do not wish to waste either the combs or brood, we take them to these newly made small colonies which we left on the old stands at the time of swarming, and thus we soon build up those weak colonies, which many times produce surplus fall honey, and they are found to be our best colonies when put into winter quarters.

Orion, ♀ Wis.

For the American Bee Journal.

Progressive Convention.

The Progressive Bee-Keepers' Association met in Bushnell, Ills., on May 7, 1885, with the President, A. W. Fisk, in the chair. After calling the roll, the convention proceeded to the discussion of questions and receiving reports from members on wintering. Twenty-six members reported 688 colonies, fall count, and 469, spring count. Taking all together, the loss of the past winter will equal or exceed 80 per cent. in this part of the State.

Methods of wintering bees were next discussed. Mr. A. W. Fisk wintered his bees in the cellar, with burlap covers over the frames. Mr. H. H. Soul left his bees on the summer stands, in Quinby hives, with chaff over and at the sides of the frames. Mr. J. E. Stuckle, Dr. J. A. James and E. F. Crane left their bees on the summer stands, unprotected. Mr. J. M. Hume uses a chaff hive, with quilts over the frames. Mr. H. W. Cummings left his bees on the summer stands, with outer case, packed with chaff, and chaff over the frames. Mr. Ed. Deyer wintered his bees on the summer stands packed in leaves. Mr. W. C. Cummings left his bees on the summer stands, with outer case and chaff packing. Jacob Hoover uses chaff packing on the summer stands. J. G. Norton uses chaff hives and chaff packing on the summer stands. Mr. N. M. Woodman left his bees on the summer stands, partly protected; spring dwindling and heavy losses were the result. Mr. Wm. Riley left his bees on the summer stands with upper and side packing. Mr. J. N. Bricker wintered part of his bees in the cellar and part on the summer stands; he prefers a cellar. Miss Cora Castle uses chaff packing on the summer stands.

The subject of queenless colonies was next discussed. Mr. J. M. Hume gives such a colony a frame of eggs and brood, and a queen or queen-cell. Mr. J. N. Bricker said that it did not pay to bother with such a colony in the spring. Mr. Wm. Riley gives them a frame of hatching brood, and in a few days a queen or a queen-cell.

Clipping queens' wings was also discussed, but it was thought by the Association that it was unwise and unprofitable.

The subject of comb foundation followed. Messrs. J. M. Hume, A. W. Fisk, J. N. Bricker, and Wm. Riley use full sheets in the sections and brood frames. J. G. Norton uses half sheets in the sections and full sheets in the brood-frames. It was also the decision of the Association that an eight-frame hive was as good as a ten-frame one; also, that the Italian bees and the Langstroth hive were the best.

A vote of thanks were tendered the Macomb and Bushnell papers, and the AMERICAN BEE JOURNAL, for their kindness in announcing the meeting. Adjourned to meet at Macomb, Ills., on the second Thursday in October, 1885.

J. G. NORTON, *Sec.*
A. W. FISK, *Pres.*

Read at the International Congress.

Overstocking a Locality.

JOHN Y. DETWILER.

From numerous inquiries made by Northern apiarists, and also by conversation with visitors here from various localities in the North, I find the prevailing opinion is, that the mangrove district of Eastern Florida is now nearly, or quite, overstocked with apiaries. This opinion is almost universal in the North, and has been the means of keeping quite a number of individuals from engaging in honey production in this locality. The readers of several of the bee-papers have been informed from time to time that their is no further opportunity of engaging in bee-culture at this place without overstocking the locality, and they have been advised to seek the western coast to locate their apiaries. Having been engaged in apiculture in Northwestern Ohio for nearly ten years, and being familiar with both the white clover and basswood crops during a number of seasons, I think that I am free to say that nothing of the kind has ever come under my observation as the heavy flow of honey during the mangrove season is boundless. This is the principal honey crop of the coast, though there is honey gathered nearly every day in the year in small quantities.

Commencing on Jan. 1, the ash, maple, willow, and other forest trees yield a fair supply, and other trees and bushes which neither time nor space will allow me to enumerate. The saw-palmetto, previous to the mangrove, the cabbage afterward, and also various wild flowers during the entire winter months yield a scanty supply of honey, which, in many instances keeps up the stores of a colony. During April, feeding diluted honey in the open air is frequently resorted to in order to strengthen the colonies for the harvest of mangrove, which is due about June 10, when the honey season of the coast begins in good earnest, and continues with but little variation from 45 to 60 days; the season of 1881, according to my personal observation, was about 80 days.

The northern limit of the mangrove district is Port Orange, six miles south of Daytona, Volusia county, and about the same distance from Musquito Inlet. From the nothern limit, for a distance of 25 miles, there are innumerable islands ranging from a few square rods in area to many acres in extent, which, in the honey season, are covered with bloom, and secrete immense quantities of honey, sufficient, in my estimation, to supply thousands of colonies. When this fact is established beyond a doubt, I see no reason why energetic, industrious Northern apiarists should be advised to locate on the west coast, where, in my opinion, neither transportation nor the advantages which we possess are to be found.

I am told that the mangrove blooms profusely as far south as Indian River Narrows, but having had no opportunity to know by personal observation, I leave the matter as I have been informed. During spring and fall I do not doubt but what this locality can be overstocked; but while the mangrove yields honey so bountifully, what apiarist of experience will extract so closely, or sell his crop to the detriment of his bees and personal interests.

I take this opportunity to state to my fellow bee-keepers, and those who come to Florida to engage in apiculture, that they should come with the determination to withstand the disadvantages of a humid climate, insect pests, and high rates of transportation, as well as many other inconveniences unthought of in their Northern homes; on the other hand, a salubrious healthful climate, a total exemption from the rigors of winter, and the fact that neither winter losses nor "spring dwindling" discourage the apiarist. I would suggest to all who desire to change their locality, to first come and see before selling, and upon investigation decide whether the change will be for the benefit of all concerned. We should be pleased to welcome to our locality any apiarist, and impart any information in our power to advance their interests.

New Smyrna,⊙ Fla.

For the American Bee Journal.

Bees Beneficial to Fruit, etc.

J. H. ANDRE.

Much has been written in regard to the destructiveness of bees in orchards, vineyards, etc. Now this would be well enough in its way, if we could have facts demonstrated by scientific experiments made by impartial investigation; but as such assertions are usually mere guess-work, it is an easy matter to bury them under an avalanche of opposing facts.

Within the last 25 years there have been, in this vicinity, four or five seasons when we had late frosts which killed nearly all of the fruit. During such seasons I observed many apples that were mixed with fruit of an entirely different color, and it was easily seen of what particular variety; in some instances the spots were small, and again, it would cover half the apple. Some would even give the flavor also. It was a mystery to me for some time, but I finally solved it in this way: The apples that were so mixed came from weak, late blossoms that lacked in pollen to make fruit, and which would never have produced fruit in a fruit-bearing season; but all of the early blossoms being chilled, the bees in their workings carried enough pollen from some late-blossoming variety to those weak blossoms, thus giving them stamina enough to produce fruit. The tree being freed from the earlier blossoms threw its strength to those hybrids, and produced fruit, which, in a fruit-bearing year, would have dropped from the tree. Thus in some seasons thousands of bushels of fruit are furnished us by the bees. It is quite likely that if the facts were known, this is of minor importance in comparison to the real benefit bees are aside from gathering honey.

I intend to try a colony this season, in a hive with 16 frames, 7x10, standing on their ends. Begin in one corner of the hive and stand up four frames; if they are Quinby frames one end will need be gained in the centre for passages. Now stand up four more with the sides at the ends of the first four, when it is finished. There will be four frames in each corner—one-half warm, the other cold frames. This will bring the brood-chamber outside of frames 14x14 inches square, and comb 10 inches high. With little trouble this could be used as a hanging frame hive, by putting two cross sticks across the hive, one each way. Each frame will occupy 1¾ inches space to make all correspond.

Lockwood,♀ N. Y.

For the American Bee Journal.

New Method of Transferring Bees.

O. CLUTE.

On page 228, in answer to the question, "What is the best method of transferring bees from box-hives?" several able bee-keepers reply that it is a good way to drum out the bees, put them into a new hive with frames of wired foundation, and then, 21 days later, drum out from the old hive all bees that have hatched in the meantime and unite them with the others.

Concerning this method of transferring, I wish to remark: 1. If the drumming out of the bees is at all thorough, there will not be enough of them left in the old hive to keep the capped brood warm, and all of it except what is just ready to hatch will chill and die. This is sure to be the case if the transferring is done in the cool weather of spring, or if there comes a cool time after the transferring, even when it is done in summer. This loss of capped brood is a serious objection to this method of transferring.

2. If the drumming out of the bees is thorough, there will not be enough of them left to feed and care for the uncapped brood, and hence it will chill, and starve, and die. If there was a good deal of brood in the old hive just on the point of hatching,

these newly hatched bees would do what they could to care for the growing brood; but in all ordinary cases they could not care for it all, and there would be a serious loss.

3. It may be said that the drumming is not intended to be so thorough, and that enough old bees are to be left in the old hive to care for all the brood, both capped and uncapped. But the gentlemen in giving directions say nothing about this, and the natural inference is that they expect that very few bees are to be left in the old hive, and yet that all the brood is to be taken care of until it comes to maturity. In this last, I am sure they will be mistaken.

A gentleman near Iowa City began bee-keeping a year ago. Last summer he followed the new method of transferring, and in a few days after he had drummed out the bees his old hives gave out a disgusting stench. On examination he found that this stench came from the large quantity of dead and putrid brood in the combs—brood that had chilled and died because there were not enough bees to warm and feed it. He is not to-day a very enthusiastic advocate of the new method. Will those who advise this method tell us how many colonies they themselves have transferred by it, at what season it was done, and how much brood they lost?

Iowa City, Iowa.

* * *

Read at the N. Y. State Convention.

The Honey Market.

L. C. ROOT.

The one great interest which comes before us most prominently, demanding the attention of all who are in any way interested in the production of honey, is, how shall we create a more general demand for our products and establish a permanent and well regulated market for the same? It may be well first to notice some of the causes which have brought about the present condition of the market, that we may be better able to work intelligently in placing it upon a better basis.

Twenty-five years ago, honey in boxes weighing from 5 to 10 pounds each, would wholesale readily at from 30 to 40 cents per pound, and retail in proportion. With this advantage, had the minds of bee-keepers generally been fixed upon the idea of establishing a reliable and permanent honey market, and had they worked as faithfully to that end as they have in the direction of producing a greater quantity of honey, we should not have the unsettled market of to-day. Besides, if we had kept this matter fully in mind in all of its bearings we should have found that by producing less surplus honey in better shape, we should have experienced far less loss, particularly in wintering. There are many who have lost in bees during the winter much more than they have gained by their efforts to produce a large amount of surplus.

I do not fail to recognize the grand progress which has been made during the past in the production of honey, and yet I repeat that far too little attention has been given to fostering and encouraging a demand for honey which would sustain a permanent and substantial market.

Now, in the direction of bringing about a needed reform, let me suggest that the one thing at which we should aim in an unselfish, thoughtful and energetic way is, a higher standard of our products. This, I believe, should be our motto. And our standard should be high; we should not be satisfied with anything less than the best. We should remember, that from the very earliest history of the world, honey has been considered a desirable article of food. We should also keep in mind the fact that it is the only entirely natural saccharine product that we have given us as a food. It is secreted in the blossom, gathered by the bees, and stored in the combs ready for our use, without undergoing any change or process of manufacture by man. When properly cured and kept under favorable conditions, it will not granulate.

To furnish this natural and desirable product with its delicious flavor pure and unchanged, whether in the comb, or freed from it, is the first and highest standard which can be placed before bee-keepers, and in my opinion will do more towards establishing permanency in a honey market than any other one thing.

It is very apparent that we have made great progress during these years, in neatness and form of package; and while this is true, it is also a fact that we have made many sad mistakes which have resulted harmfully. The honey-box of earlier date was glassed before it was filled, and, as a rule, was left upon the hive until late in the season. The effect of this was, that the boxes were thoroughly sealed with propolis. The honey was perfectly cured, and was covered with an extra coating over the capping of the cells, protecting it more entirely from moisture. If any cells were left partly filled and uncapped, the honey was removed by the bees.

With such products we should hear no complaints of honey dripping from the boxes, souring in the comb, or presenting a watery appearance. So long as we find honey offered for sale, partially sealed, produced without separators, without being glassed, improperly cured, and in leaky packages, we need not expect a substantial market. We must conform in some degree to the earlier methods. We must use separators to secure straight combs, be sure it is well sealed and firmly secured in the boxes, have it well cured, nicely glassed, and cased in a neat and substantial manner in a standard package.

One of the oldest and most reliable honey dealers in New York told me recently that much confusion arose from the irregularity in sizes of cases. The cases should never contain but one tier of boxes. Those for two-pound sections should hold twelve, and for one-pound sections, twenty boxes to the case.

Mohawk, N. Y.

L'Apiculteur.

The Caucasian Bee.

These questions were asked at the German Congress of Apiculture held at Erfurt: "Is the race of bees, recently introduced from the Caucasus, of any value whatever, viewed as a race to be reared?" "What other race would be particularly suitable for crossing?"

Mr. Hilbert, of Mariejewo, said that the State Reports of the Russian Counsellor, Dr. Butterow, having made known the Caucasian bee, he had procured through this gentleman, two queens direct from the Caucasus. A Mr. Gunther had also sent three more to him, so that he had commenced with 5 Caucasian queens. "Three words," he said, will indicate the value of this bee; viz., "gentle, lazy, and unprolific." He believed, however, that a cross with the Italian and Egyptian bees produced good results; though a cross with the Cyprian did still better; but he would not have only Cyprian bees to work for him, for their sting is abominable.

Mr. Vogel, of Lehmannshœfel, in the spring of 1879, had also received, through Dr. Butterow, 12 queens, which, by mistake, did not come direct from the Caucasus, but from the lower Don. The colonies, with their Caucasian queens, increased in strength wonderfully; in July the hives were crowded with bees, but—there was no honey. So gentle were they that in the warmest days he could not get them to sting him. They wintered well. In the summer of 1880, the product in honey was again naught; the hives were crowded again, in June and July, with brood and bees, but in the fall there was no honey—our season for honey-gathering ending with the harvest. This Caucasian bee being of no value for our country, he ceased to keep them. They may do very well, however, in regions where there is much honey to gather in the fall. In the summer of 1879, he again received through Dr. Butterow, 4 queens direct from Wladcawkas in the Caucasus; of these 4 queens, 2 did very well in 1880; their hives were populous, and very rich in honey. The colonies reared by him from these 2 queens, distinguished themselves also very advantageously. Again, in 1881, the Caucasian bee was remarkable, more than any other race, by its wealth of population and of honey.

Mr. Haus, of St. Petersburg, said that in the spring of 1879, Prof. Butterow had received from Caucasus, 21 queens, 12 of which were sent to Mr. Vogel. They were pure Caucasians, and did not come from the region of the lower Don, as Mr. Vogel supposed. These bees, though very active, do not always yield remarkable results; they are inclined to robbing. Their wintering lasts 218 days, after which they lay rapidly.

Mr. Lehzen, of Hanover, thought that this Caucasian bee demonstrates the correctness of an old assertion of his, namely, that we must utilize, something like the lever of our rearing, solely the power of the individual of certain colonies, or rather of certain queens. He did not consider any single race as perfect; that the safety of apiculture did not depend upon the race, but that the value of any race was only individual. Mr. Hilbert appears somehow to have received bad Caucasian queens. He tells us that Caucasian bees reared in this country, like to sting; this he could admit, a different climate and some circumstances attending their gathering, cannot act with the rapidity of a thunderbolt upon the qualities of the bee, and instantaneously transform its character. All the pure Caucasian bees that he had reared, were as gentle and tractable as the original ones. The Caucasian queens, on the contrary, crossed with German drones, and hence not purely fecundated, produce, without exception, only bees of remarkable wickedness; here comes in Mr. Hilbert's observation.

He further remarked that the Caucasian bee has thus far wintered very well, being through all the winter as quiet as any other race; that it is singularly suitable for crossing; with the Italian it produces a bee still gentle, and of a very pure color. The most of his Caucasian bees, including the original ones—2 queens still living—are of the same color as the Italians. The greater part of the Caucasian workers have yet the little yellow crescent of the Cyprian bees. All the bees of Asia Minor present the same exterior peculiarities. If one considers the geographical dissemination of the honey-bees it must occur to him, as it did to Mr. Lehzen, that this Caucasian bee, the Cyprian and that of Asia Minor, all belong to secondary races, from a cross of our dark bee with the Egyptian.

Under all these considerations, therefore, he would say that no final judgment can yet be passed correctly upon the Caucasian bee, it having been with us only these two years, and so few in numbers. Every one knows that the product of a colony mostly depends upon the way it is treated; if colonies are frequently disturbed, they stop and sting and eat up their supply of honey; hence they are called wicked and lazy. Another will tend them carefully, giving them combs, will get a strong colony and produce honey; he will, of course, think very well of this race. Let us, therefore, wait a few more years before declaring our judgment upon the Caucasian bee.

* * *

Local Convention Directory.

1885. *Time and place of Meeting.*

May 29.—Haldimand, Ont., at Nelles' Corners, Ont.
E. C. Campbell, Sec.

June 5.—Mahoning Valley, at Newton Falls, O.
E. W. Turner, Sec., Newton Falls, O.

June 19.—Willamette Valley, at La Fayette, Oreg.
E. J. Hadley, Sec.

July 15.—Central Illinois, at Bloomington, Ills.
Wm. B. Lawrence, Sec.

Dec. 8—10.—Michigan State, at Detroit, Mich.
H. D. Cutting, Sec., Clinton, Mich.

☞ In order to have this table complete, Secretaries are requested to forward full particulars of time and place of future meetings.—Ed.

SELECTIONS FROM OUR LETTER BOX

Joyful Hum of Busy Workers.—Ezra J. Cronkleton, Dunlap,+o Iowa, on May 15, 1885, writes thus:

I can report good success in wintering. I put 10 colonies into the cellar on Nov. 17, 1884, and took 10 out on April 12, 1885. They were nice, strong and clean, and all are now doing splendidly. The weather here has been cold, windy and bad in every particular until May 10, when it turned warm. Plum and apple bloom is opening some, and the joyful hum of the busy workers is heard again amidst the welcome bloom.

Late Season—Nuclei Colonies.—13—L. G. Purvis, (45—31), Forest City,+o Mo., on May 9, 1885, writes thus:

The fruit trees are in bloom again, although 3 weeks late, but bees are very scarce—about 90 per cent. having been lost during the past severe winter and spring, and two-thirds of those left are nothing more than nuclei, which will require a good deal of nursing to build them up into good colonies. I fared better than the majority of those having bees in this part of the country, as I have 31 left out of 40.

Report, from W. V. Whitney, Waucoma,♂ Iowa, on May 14, 1885:

On Nov. 18, 1884, I put 98 rather light colonies into the cellar, and on April 1, 1885, I took out 83 colonies, 10 of which I have since lost, or doubled up, so that I now have 73 colonies in fair condition. The past has been a hard winter on bees, the most of the small apiaries having hibernated for good.

Expecting a Good Season.—J. G. Norton, Macomb,+o Ills., on May 18, 1885, writes thus:

Bees are "booming" on the fruit-bloom and getting ready to swarm. I look for a splendid year for bees in this locality.

White-Headed Drones, etc.—W. J. Davis, Youngsville,~o Pa., on May 19, 1885, says:

My bees are in splendid condition and doing very finely. I lost 12 colonies out of 200. I have a beautiful queen of last year that produces "white-headed" drones. I discovered them yesterday and enjoyed a hearty laugh at their comical appearance. Who among our fraternity has had experience with such oddities?

Prevention of Robbing by Hydropathic Treatment.—James T. Norton, Winsted,~oConn., describes his method of preventing robbing, as follows:

In addition to the number of suggestions for the prevention of robbing in the apiary, given on page 276, I desire to give one which is very simple, and with me entirely successful in every instance. When robbing has commenced, I close the entrance to the assaulted hive so nearly that only a single bee can pass through at the same time, and this will, of course, make slow work for the robbers, which will gather in large numbers about the entrance. I then take a dish of the coldest water I can obtain, and with my hand sprinkle the bees heavily and rapidly, which will send such of them as can fly, to their homes in a hurry. It will not be long before another crowd will be on hand, and they will want the same treatment, as well as all subsequent gatherings. This plan is applicable to swarms which have been hived, and subsequently start to go off. Swarms should always be closely watched, after hiving, on that day, and for two or three subsequent days. Have a large sprinkler filled, and a bucket or two of water near at hand, and when the bees begin to come out, pour the water directly upon the hive-entrance, and the bees will be thoroughly wet, and unable to fly, and will cluster upon or under the hive, when they may be put back into the same, or what is better, another hive. I have never had a swarm make the second attempt to leave, after being subjected to the hydropathic treatment.

Report, from P. J. England, Fancy Prairie,⊙ Ills., on May 13, 1885:

My apiary has been reduced from 44 colonies to 9 weak nuclei. They were wintered out-doors, and unprotected. It served me right.

Bees Wintered All Right.—W. A. Farris, Oil City,~o Pa., on May 16, 1885, writes thus:

I put 4 colonies into the cellar on Nov. 20, 1884, and they came through the winter all right. One died after I put them out, about April 1; caused principally by ignorant manipulation. Many colonies have died in this locality considering the number who keep bees, which is not many at most.

What Killed the Bees?—J. L. Pinkerton, Lebanon,⊙ Mo., on May 18, 1885, writes as follows:

I commenced the winter with 52 colonies of Italian bees, and all did well until after the warm days about the first of February, when the most of them commenced rearing brood. From that time they commenced dying, and now I have but 4 colonies left. There was not more than 4 or 5 colonies that had the diarrhea; all had plenty of honey. In the fall they had free access to a cider mill near at hand, but I could not detect any fermentation in the honey of the cells of those that died. What killed them? I do not believe that it was the pollen, for they did not have a very great store of it. Others in the vicinity have shared a similar fate. We lost none that were in double-walled hives.

Moving Bees a Short Distance.—Dr. L. C. Whiting, East Saginaw,⊙Mich., writes as follows on this subject:

For moving colonies a short distance, Mr. Gallup, some years ago, gave an almost infallible plan. Shake the bees off the combs and let them cluster in some box for half an hour; remove the hive to the desired locality, and shake the bees in front of it, and run them in the same as a new swarm. A warm day should be taken to avoid chilling the brood.

Hives Full of Bees.—L. L. Triem, La Porte City,⊙Iowa, on May 21, 1885, writes as follows:

We are having a very cold and backward spring. To-day finds us in the midst of plum, dandelion, white willow, and other blooms, all coming together. Cold, cloudy weather has kept back the bloom of some of these that would have come before in ordinary spring weather. With all this bad weather I cannot see that the bees have lost much. All hives with good young queens are now crowded full of bees, and drones are very plentiful.

Special Notices.

To give away a copy of "Honey as Food and Medicine" to every one who buys a package of honey, will sell almost any quantity of it.

◆

☞ **Preserve your papers** for reference If you have not got a Binder we will mail you one for 75 cents, or you can have one FREE if you will send us 3 new yearly subscriptions for the BEE JOURNAL.

◆

☞ **Sample Copies** of the BEE JOURNAL will be sent FREE upon application. Any one intending to get up a club can have sample copies sent to the persons they desire to interview by sending the names to this office.

◆

☞ Our rates for two or more copies of the book, "Bees and Honey," may be found on the Book List on the second page of this paper. Also wholesale rates on all books where they are purchased "to sell again."

◆

☞ We want one number each of the BEE JOURNAL of August, 1866—February, 1867. Any one having them to spare will please send a Postal Card. We will pay 50 cents for one copy of each of the two numbers.

◆

☞ For two subscribers for the Weekly BEE JOURNAL (or 8 for the Monthly) for one year, we will present a Pocket Dictionary, and send it by mail, postpaid.

◆

☞ All who intend to be systematic in their work in the apiary, should get a copy of the Apiary Register and commence to use it. The prices are as follows:

For	50 colonies (120 pages)	$1 00
"	100 colonies (220 pages)	1 25
"	200 colonies (420 pages)	1 50

The larger ones can be used for a few colonies, give room for an increase of numbers, and still keep the record all together in one book, and are therefore the most desirable.

Advertisements.

FOR SALE!

THE undersigned offers for sale at a **bargain**, about 40 neatly painted improved MOVABLE COMB HIVES. If you want a chance in your lifetime, write immediately. **ADIN A. SMITH.**
21Atf Mohawk, Herkimer Co., N. Y.

BEE-KEEPERS,

We are making very nice **ONE-PIECE**

HONEY SECTIONS

and are selling them very cheap. Please send for Price-List. J. H. WOODWORTH & CO.,
21A1t West Williamsfield, Ashtabula Co., O.

Vandervort Foundation Mill.

6 Inch, Price, $25.00.

It makes the finest extra thin Foundation for comb honey. For Sale by

ALFRED H. NEWMAN.
923 West Madison Street, - CHICAGO, ILL.

SECTIONS!

FOR FINE, smooth and accurate work, our Sections are **at the head**, and the exceeding whiteness of our Poplar is unsurpassed. Send for samples and prices.

APIS AMERICANA.—Orders for Queens of the beautiful **SYRIO-ALBINOS**, will now be received. Reared by my **new method**, all are large and fine and perfect. We have made a great discovery in Queen-Rearing, and hereby challenge the production (by natural swarming or otherwise) of Queens that will excel ours in any valuable quality. Isolated 3 miles from other bees. First come, first served. Send for circulars.

Address, **DR. G. L. TINKER,**
1Atf **New Philadelphia, O.**

The Canadian Bee Journal.

16-page Weekly—**$1.00** per year.

Cheapest Weekly Bee Journal in the World.

American Currency and Stamps accepted at par. Sample copies free.

D. A. JONES & CO.,
21D3t **Beeton, Ont., Canada.**

---

10 PER CENT REDUCTION

allowed on all orders until further notice. GOODS BETTER than ever. The following are samples of many letters received:

FAIR HAVEN, VT., April 5, 1885.

Dear Sir:—Of those 61 **Falcon Chaff Hives** I bought of you, 58 had full colonies and 3 nuclei; all have wintered finely. That speaks well for the hive and my mode of packing. E. L. WESTCOTT.

ATWATER, O., May 2, 1885.

Dear Sir:—Received Sections (14,000) yesterday. They are all O. K.—finer even than last year.
J. MATTOON.

I manufacture a full line of **BEE-KEEPERS SUPPLIES.** Send for my **Illustrated Price List** for 1885—FREE.

W. T. FALCONER, Jamestown, N. Y.
4BC1y

BE SURE

To send a Postal Card for our Illustrated Catalogue of APIARIAN SUPPLIES before purchasing elsewhere. It contains Illustrations and descriptions of everything new and valuable needed in an apiary, at the lowest prices. Italian Queens and Bees. Parties intending to purchase Bees in lots of 10 colonies or more, are invited to correspond.

J. C. SAYLES,
1D15t 2B5t HARTFORD, WIS.

Sweet Clover

— FOR —

BEE PASTURAGE.

IT MAY be sown on all waste places at any time, and will grow on any soil—in any climate. Price, 20 cents per pound; $2.75 per peck; $10.00 per bushel (60 lbs.)

ALFRED H. NEWMAN,
923 West Madison Street, - CHICAGO, ILL.

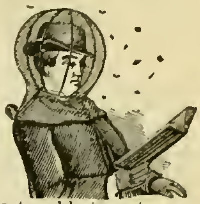
BAILEY Swarm Catcher.—Send stamp for circular. J. W. BAILEY, Ripon, Wis.
17D3t

FOR BEE-HIVES

And a general assortment of **Bee-Keepers' Supplies** send for circular to
51Dtf J. E. PRYOR, Dexter, Iowa.

QUEENS **Send for Price-List of** Italian & Holy-Land Queens for **1885.** BEES by the pound, nuclei and full colonies. **J. C. MISHLER,**
11D6t **Ligonier, Noble County, Ind.**

A NEW BEE-VEIL.



There are five cross bars united by a rivet through their center at the top. These bars are buttoned on to studs on the neck-band. The bars are of best light spring steel; the neck-band of best hard spring brass; the cover is of handsome light material. It is very easily put together, no trouble to put on or take off, and folds compactly in a paper box 6x7 inches by one inch deep. There would be no discomfort in wearing it either day or night, and the protection against Mosquitoes, Flies, Bees, Gnats, etc., is perfect. The weight of the entire Veil being only five ounces. **Price, by Mail or Express, $1.00.**

Special discount to dealers, on ½ dozen or larger quantities.

ALFRED H. NEWMAN,
923 West Madison Street, - Chicago, Ills.

DUNHAM AND VANDERVORT FOUNDATION.

WE have bought a large stock of **Choice Yellow Beeswax,** and can furnish Dunham Comb Foundation for brood comb for **45c.** per lb. Thin Dunham for Sections, **50c.** per lb. Extra thin Vandervort, 10 to 12 square feet to the lb., **55c.** per lb. **Send for prices for 25 lbs. or more.** Will work up wax into Foundation for **10, 15** and **20c.** per pound.

F. W. HOLMES,
9D9t COOPERSVILLE, Ottawa Co., MICH.

SOMETHING NEW!

THE **Best-Made,** handiest and cheapest combination,

Summer and Winter Hive

in the market. Send for Catalogue of general **APIARIAN SUPPLIES.** The best white poplar **SECTIONS** and pure yellow beeswax. **COMB FOUNDATION** a specialty.

Full Colonies, Nuclei Colonies and

QUEENS for SALE.

Be sure to send for 25th Annual Price List, before making your purchases for 1885.

Address **WM. W. CARY, Jr.**
COLERAINE, MASS.
3Dtf Successor to Wm. W. Cary & Son.

DIO LEWIS' NUGGETS

A **remarkable Magazine,** crowded with BRIEF ARTICLES on SANITARY SUBJECTS by that most sensible, terse and humorous writer—DR. DIO LEWIS. **Worth its weight in gold!** You can get a sample copy by sending TEN CENTS to the new DIO LEWIS PUBLISHING COMPANY, 69 and 71 BIBLE HOUSE, NEW YORK CITY. 21A4t

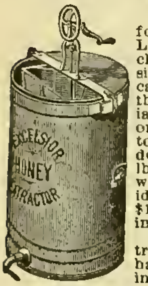
---

COMB FOUNDATION!

REDUCTION IN PRICE.

UNTIL further notice, we will furnish COMB FOUNDATION at **3 cents** per pound less than the prices quoted in our Catalogues. This is caused by the decline in price of Beeswax.

CHAS. DADANT & SON, Hamilton, Ill.
ALFRED H. NEWMAN, Chicago, Ill.



EXCELSIOR
HONEY EXTRACTORS

In answer to frequent inquiries for Extractors carrying 3 and 4 Langstroth frames, I have concluded to adopt these two new sizes. The 3 frame basket is in a can of the same size and style as the 2 frame. The 4 frame basket is in the larger can, with the cone or metal standard for the basket to revolve upon, leaving room underneath the basket for 75 or 80 lbs. of honey. It will be complete, with covers, and in every way identical, except in size, with the $16.00 Extractor, 13x20, which is intended for any size of frame.

Excepting with the $8.00 Extractors, all the different styles have strainers over the canal leading to the honey gate, and movable sides in the Comb Baskets. The $8.00 and $10.00 Extractors have no covers.

For 2 American frames,	13x13 inches	……….$8 00
For 2 Langstroth "	10x18 "	………. 8 00
For 3 " "	10x18 "	……….10 00
For 4 " "	10x18 "	……….14 00
For 2 frames of any size,	13x20 "	……….12 00
For 3 " "	13x20 "	……….12 00
For 4 " "	13x20 "	……….16 00

ALFRED H. NEWMAN,
923 West Madison St., CHICAGO, ILL.

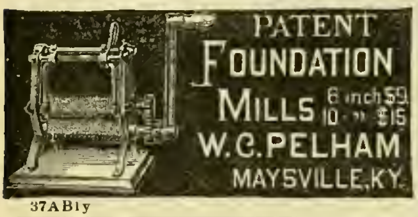
WIN more money than at anything else by taking an agency for the best selling book out. Beginners succeed grandly. None fail. Terms free. HALLETT BOOK CO.
51A1y Portland, Maine.

1885. 1885.
ITALIAN QUEENS.

J. J. MARTIN, breeder of **Pure Italian Queens**, and dealer in **Apiarian Supplies.**

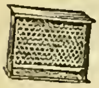
Untested Queen, $1.00; six untested, $5.00; tested each, $2.00; six $10.00. Send for Catalogue.

Address **J. J. MARTIN,**
18A4t NORTH MANCHESTER, IND.



PATENT
FOUNDATION
MILLS 6 inch $9
10 " $15
W.C.PELHAM
MAYSVILLE,KY.
37AB1y

Dadant's Foundation Factory, wholesale and retail. See Advertisement in another column.



FLAT-BOTTOM
COMB FOUNDATION,

high side-walls, 4 to 16 square feet to the pound. Circular and samples free

J. VAN DEUSEN & SONS,
Sole Manufacturers,
Sprout Brook, Mont. Co., N. Y.

Bee-Keepers' Supplies.

We have added to our LARGE FACTORY a SPECIAL DEPARTMENT for the

Manufacturing of Bee-Hives,
AND
White Poplar Dovetailed Also, One and Two-piece SECTIONS.

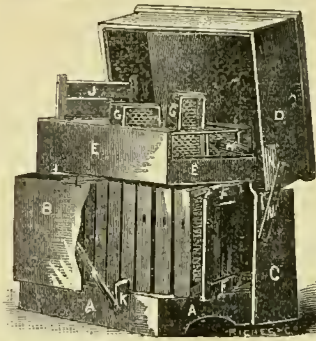
☞ All Orders will be filled promptly at the
LOWEST FIGURES,

Send Stamp for Catalogue and Samples.

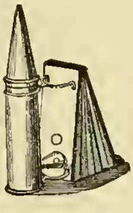
The H. F. MOELLER M'f'g Co.
1A26t DAVENPORT, IOWA.

ELECTROTYPES

Of Engravings used in the Bee Journal for sale at 25 cents per square inch—no single cut sold for less than 50c. **THOMAS G. NEWMAN,**
925 West Madison Street **Chicago, Ill.**



STANDARD
DOUBLE WALLED
CROWN HIVE!
The Best Arranged
BEE-HIVE for all purposes in existence. Sample Hives complete, **$2.50** each; in the flat, in lots of six, **$1.75** each. Descriptive Circular sent FREE. Address
E. ARMSTRONG, Jerseyville, Ills.
19A4t 6B1t



Bee-keepers' Supplies,
Standard Langstroth,
Quinby Standing-Frame,
And all other kinds of **Hives,**
MADE TO ORDER,
Quinby Smoker a specialty.

I shall supply anything you need in the Apiary Send for Illustrated Price List.

W. E. CLARK, successor to L. C. Root,
7A17t ORISKANY, Oneida County, N. Y.

Apiculturist Experimental Bee-Farm
HENRY ALLEY, Superintendent,

WILL be devoted to rearing the BEST Queens for honey-producing purposes and wintering qualities that can be produced. We have purchased from Mr. Alley, among other stock, 25 colonies of orange-yellow bees for breeding purposes, and they are

BEES THAT HAVE WINTERED

in fine condition and are building up rapidly, and cannot be excelled in any regard. Until **June 20** we will send **for $1.50** the

AMERICAN APICULTURIST

for one year, commencing with the June number (as we have but few back Nos.) and one of our choice $1.50 Queens, either Italian, Syrian Holy-Land, Cyprian or Albino. We guarantee that these Queens shall be first-class in every respect. No Queens shipped until the first week in June. Our enlarged "Bee-Keepers' Companion," (sent free) contains our Circular and Price-List, a likeness of Mr. Henry Alley, the veteran Queen-breeder, and much valuable instruction. It also contains a number of Club offers, as good as the above, which expire June 20.

If you want a first-class Queen and a good bee-paper **cheap**, send your order at once. Make all Postal Notes and Money Orders payable at Salem, Mass. Address **SILAS M. LOCKE & CO.,**
Successors to Henry Alley. WENHAM, MASS.
20A2t

1879. —— ITALIAN —— 1885.
QUEENS!

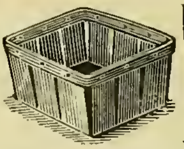
FOR ITALIAN QUEENS in their purity, and that cannot be excelled, **Comb Foundation** and **Supplies** generally, send for Circular.

12 UNTESTED QUEENS FOR $11.00.
15A1f **T. S. HALL, Kirby's Creek, Ala.**

Hives and Combs for Sale

100 good 10 f. L. Hives, one story (sec. hand) $1.00 each; good, straight empty Combs for same, 10c. each. **Heddon Cases** for 10 f. Hives, painted two coats white, for 1-lb. sections, 40 cents.

Address **D. G. WEBSTER,**
20A2t BLAINE, Boone Co. ILL.



Berry Packages

A 32-quart, iron-bound crate, with baskets like this cut, for **75** cents. Send for price-list. Also remember that we make the **Sliced One-Piece Sections** which took first premium at Michigan State Fair last September. They are smooth inside as well as out—the "BEST and NEATEST" Sections made. Address

BERLIN FRUIT BOX CO.,
19A3t Berlin Heights, Erie County, O.

Dadant's Foundation Factory, wholesale and retail. See Advertisement in another column.

TO MY FRIENDS AND FORMER CUSTOMERS

I **HAVE** made arrangements with SILAS M. LOCKE & CO., of Wenham, Mass., to rear Queens at the Apiculturist Experimental Bee-Farm, and to act as Superintendent of the same. By so doing, my former patrons will have their orders for Queens filled promptly, and as I have sold them, among other stock, 25 colonies of the finest orange-yellow bees that can be found in the world, you can depend on getting the BEST Queens that can be produced. I cheerfully recommend these parties as honorable and fair-dealing men, and all will be dealt with in a straight-forward honest maner.

20A2t **HENRY ALLEY, Wenham, Mass**

PERFUME
40 Hidden Name and Embossed CARDS and this Perfumed Satchet for 12c. Samples, 4c. CLINTON & CO., North Haven, Conn.
☞ *We have seen cards from many firms, but none as pretty as those from Clinton & Co.*
11A11t

HEDDON CASES — A BARGAIN. — I have 31 Heddon Cases for Comb Honey filled with nice white comb in each section—28 1-lb. sections in each case. These are **genuine** Heddon Cases, well-made and well-painted with two coats of white paint. Will fit any 8-frame Langstroth Hive. Will sell the lot for **$15.** The best arrangement out for comb honey. I am changing my apiary for extracting.

E. J. SCOFIELD, HANOVER, ROCK CO., WIS.
20A3t

Dadant's Foundation Factory, wholesale and retail. See Advertisement in another column.

W. Z. HUTCHINSON,
Rogersville, Genesee Co., Mich.,

can furnish just as neat, white, smooth and perfect, dovetailed, white poplar sections as there are made. Send for sample and prices. A few full colonies of choice Italians in Heddon hives for sale at $8.00 per colony. Untested Italian Queens, $1.00 each. Tested Queens reared last year in the home apiary, $2.00 each. Beeswax wanted. Make money orders payable at Flint. 16Atf

100 Colonies of Choice **ITALIAN BEES FOR SALE.** Send for Price-List. Address,
W. J. DAVIS, (Box 91)
14A9t Youngsville, Warren County, Pa.

HELP for working people. Send 10 cents postage, and we will mail you *free*, a royal, valuable sample box of goods that will put you in the way of making more money in a few days than you ever thought possible at any business. Capital not required. You can live at home and work in spare time only, or all the time. All of both sexes, of all ages, grandly successful. 50 cents to $5 easily earned every evening. That all who want work may test the business, we make this unparalleled offer: To all who are not well satisfied we will send $1 to pay for the trouble of writing us. Full particulars, directions, etc., sent free. Immense pay absolutely sure for all who start at once. Don't delay. Address STINSON & CO.
51A1y Portland, Maine.

PURE PHENOL I can furnish Pure Phenol for the cure of **FOUL BROOD,** as described by Mr. Frank Cheshire, of London, England. As it is a liquid, it can be sent only by express. Price, **25** cents per ounce, delivered at the express office in Chicago.

ALFRED H. NEWMAN,
923 West Madison Street, - CHICAGO, ILL.

Dadant's Foundation Factory, wholesale and retail. See Advertisement in another column.

WEEKLY EDITION
OF THE
AMERICAN
ESTABLISHED IN 1861
OLDEST BEE PAPER IN AMERICA
BEE JOURNAL
PUBLISHED BY
THOMAS G. NEWMAN,
EDITOR AND PROPRIETOR,
925 WEST MADISON-STREET, CHICAGO, ILL.
Weekly, $2 a year ; Monthly, 50 cents.

Vol. XXI. June 3, 1885. No. 22.

APICULTURAL NEWS ITEMS.

EDITORIAL AND SELECTED.

White Clover is just commencing to bloom in this latitude, and promises a large yield of nectar.

In the car of the sweet white clover,
  Low murmurs her lover the bee.
The sunbeam's myriad kisses
  Lie warm on the lips of the sea,
And she glows at the touch and sparkle,
  In a quiver of ecstasy.

American Exhibition, London, 1886 (Botanical Dept.) The London *Garden* says : " Among the attractions of the American exhibition to be held in London next year, will be a garden comprised solely of American trees, shrubs, and hardy plants ; in fact, it is intended that the whole of the exhibition grounds shall contain no plants except those of North America. The intention is to make a representative gathering of the United States flora, taken in latitudinal and longitudinal directions. The former will represent the characteristic vegetation of each State taken seriatim from New York to California, the latter from the Canadian frontier to Texas and Florida. The orange and citron groves of Florida and other Southern States, together with representations of their cotton, maize and tobacco fields, will be made. As the North America flora is of peculiar richness, such an exhibition will not only be novel, but attractive, for no country is so rich in beautiful hardy trees, shrubs, and herbaceous plants, and an idea of the resources of the North American flora, will thus be presented to the visitor at a glance. From the opening day in May till the close of the exhibition in October, it is hoped that the grounds will not only prove interesting and instructive to visitors, but attractive also on account of the peculiar nature of American plants to flower in continuous succession. With the ordinary American flowering shrubs, such as Rhododendrons, Azaleas, Kalmias, English people are well acquainted, but it is hoped that this exhibition will comprise large numbers of trees, shrubs, and plants which are comparatively little known in this country. The wealth of the herbaceous plant flora of the States will be a special feature, and it is intended to import direct from the States representative collections of wild trees and plants, particularly of the most attractive kinds."

The Commissioner of Agriculture has announced that the Convention of Agricultural Colleges and Experiment Stations, will be held on July 8, 1885. He adds : "This will not only not conflict with the commencement exercises of many of the colleges, but will also offer to those desiring to attend the Convention of the National Educational Association at Saratoga on July 14, an opportunity to attend both conventions without too much loss of time."

Emblem of Napoleon III.—The last of the French Emperers, adopted, as his emblem, the honey-bee, and adorned all his imperial robes with a golden representation of the "little busy bee." It is said that Napoleon adopted the bee as the emblem of his imperial power, because the great Charlemagne, the " Emperior of the West and King of France," had done so before him, and he wished his career to equal if not supersede that of the mightiest Emperior of the middle ages. The emblem served the Empire, but did not save it.

The Acacia, says the San Francisco, Cal., *Chronicle*, " is recommended as an excellent tree for those progressive bee-keepers to plant, who are determined to render themselves independent of the vicissitudes of the wet and dry seasons, and furnish some honey-producing flowers for their bees outside of the natural growth. This tree is a rapid grower, does well on light, gravelly soil, is valuable for its wood as well as its blossoms, and in every way seems to be just the thing for bee-keepers. There are many other trees and plants recommended for this purpose, but the acacia seem especially adapted for the locations occupied by most bee-keepers in this State."

The same paper remarks thus concerning the honey crop : "From present appearances, the bee-men will have another fairly prosperous season. The bees are generally in good condition, and though it is yet a little early to make predictions on the extent of the honey yield, everything points to a good year."

Misrepresentations about Honey.—Mr. A. F. Robson, Italy, N. Y., writes thus : I clip the following from the Yates (N. Y.) County *Chronicle*, and send it to the BEE JOURNAL as a specimen of lying : "The Albany correspondent of the *Tribune* says : Some curious facts were revealed by the packers of canned goods in private conversation. 'You would not think the parings and cores of apples of any use, would you ?' said one of the packers to a friend. He then continued : "Well, a fruit-packing establishment makes use of everything ; like the pork-packing factories, which save everything except the pig's grunt. When we are packing and drying apples, we have tons and tons of parings and cores. These we sell to the makers of Jelly. All kinds of jellies are made of the material. You cannot buy real currant jelly in the groceries. Every bit of it is apple with some essence in it. But that is not the sole use of apple parings. Occasionally we keep them so long that they cannot be converted into jelly. Then we sell them to the makers of strained honey. *All the strained honey* that you see in the market is made of it—*there is not a bit of honey about it.*" What next ! Does there not seem to be a demand for this kind of lies ?

The Apiculturist for April and May has put in an appearance (in one number). Mr. Locke promises that it shall be published on time hereafter. The concluding portion of the official report of the Northeastern Convention is given therein, and we will present it to our readers next week. This will answer several queries sent to us about the non-appearance of the "*Api.*"

Corn has been planted *three times* in some portions of Kansas this Spring, on account of the eccentricities of the weather. Bee-keepers are not the only sufferers on account of the inclemency of the season—corn is very unpromising ; wheat has suffered considerably, and almost every crop has been injured in a more or less degree. That "misery loves company " is a *trite* but true saying.

Bee Pasturage.—On page 346 the reader will find two communications of vital importance to the bee-keeping industry. It appears that some fanatic in Wisconsin has sued Mr. S. I. Freeborn for $500 for damages to his sheep pasture, alleged to have been done by Mr. F.'s bees. This will, of course, be a " test case," and should it be decided, either by ignorance or self-interest, in favor of the owner of the sheep pasture, then untold trouble for bee-keepers may result. Any "jealous " or "meddlesome " neighbor may institute proceedings at law against a keeper of bees, and the costs and annoyances of a suit at law will be the result. But we do not believe that any such a thing will happen. There certainly ought to be more " common sense " exercised in such matters, and we hope that *justice* will prevail.

Bees are of great advantage to the clovers as well as to other bloom, and without their aid in fructifying the flowers, many a plant would cease to bloom—and even to *live!* They absolutely require the visits of bees or other insects to remove their pollen-masses, and thus to fertilize them. Hence, Darwin wisely remarks, when speaking of clover and heart's-ease : "No bees, no seed; no seed, no increase of the flower. The more visits from the bees, the more seeds from the flower; the more seeds from the flower, the more flowers from the seeds." Darwin mentions the following experiment: "Twenty heads of white clover, visited by bees, produced 2,990 seeds ; while twenty heads so protected that bees could not visit them, produced *not one seed.*"

Hence it would be " the heighth of folly " to institute a war on the bees—the best friends of the flowers and fruits.

In Australia and New Zealand, not more than five per cent. of the clover crop produces seed, and to remedy this the authorities there have taken the trouble and incurred the expense of importing bees—not for the honey they will gather—but to fertilize the plants and produce the seed, so that it may " hold its own," and spread over the land.

It would be *the greatest mistake of the age* for judges, courts, or laws to interfere with the pursuit of bee-keeping—entailing disaster to the farmers and stock-men of the country, as well as to the fruit interests generally. We call for a *halt* in such a " career of madness," and demand a hearing for the 500,000 citizens of America who are now engaged in the pursuit of bee-keeping.

What do bee-keepers think of the plan proposed by Mr. Heddon on page 347 ?

QUERIES

WITH

REPLIES by Prominent Apiarists.

Removing Pollen from Combs.

Query, No. 69.—What is the best method to remove old pollen from brood-combs?—G. E. H.

PROF. A. J. COOK replies as follows: "Give them to bees in the spring. If one has a great surplus, why not melt up such combs and replace with foundation?

JAMES HEDDON says: "I insert them into the center of the brood-nest, when spreading the brood; will do no harm. Let the bees cut and carry out all bee-bread that they do not care to use. Let us try to call bee-bread, bee-bread—not pollen."

G. W. DEMAREE remarks thus: "When I have combs full of pollen in the spring of the year, I give them to bees that are rearing brood, exchanging them for combs that have no pollen. I also give each 'first swarm' one or more combs containing pollen, when I have them."

MESSRS. DADANT & SON reply thus: "The best method is to melt the combs."

Making a Honey-House Rat-Proof.

Query, No. 70.—How should a honey-house be made in order to be rat-proof?—J. P. M.

DADANT & SON remark as follows: "Dissolve one ounce of gum aloes in a pail of boiling water, and mix it with the mortar; or one pound of aloes in a barrel of water to prepare the mortar. To prevent mice or rats from gnawing the boards, paint both sides of them with the same solution, but stronger. Fill the mice holes with plaster mixed with aloes water."

PROF. A. J. COOK replies thus: "Lay brick in walls, a little above the floor; plaster and grout the cellar. This is very important. Mice that were nearly starved got into our cellar this winter, in March, and destroyed 5 good, strong colonies. The honey was all gone and the combs all eaten. An accidental break in the plaster caused all the mischief."

G. M. DOOLITTLE remarks: "If well ceiled floor, and all with hard pine or spruce, a honey-house should be rat and mouse-proof."

JAMES HEDDON says: "Make it so that there are no rat holes, or places where a rat can make a hole. My honey-house is rat, mouse, bee, fly, and ant-proof."

G. W. DEMAREE remarks thus: "My honey-house is built on cedar posts 12 inches above the ground, and everything is so 'evened up' under the floors, that rats can find no support for their feet while they cut through the floor. I have tried two honey-houses arranged in this way, and no rats have ever entered them."

How do Bee-Larvæ Eat?

Query, No. 71.—Do bee-larvæ eat the food that the bees put into the cells, or do their bodies absorb it, say from the larva to the pupa state, or, in other words, from the time the egg hatches until the young bee leaves the cell?—L. H.

PROF. A. J. COOK remarks thus: "The food of the larva is already digested, and is without doubt absorbed. The alimentary canal, no doubt, serves as a reservoir for the larval excretions. Intestinal worms and many maggots like bats, procure their food by absorption through the germal walls of the body."

JAMES HEDDON remarks as follows: "I have never observed, to find out. Reason and reading makes me think that they take food by absorption, during the early part of their existence, at least."

G. W. DEMAREE replies thus: "The larva of the honey-bee takes its food by means of its mouth, and not chiefly by absorption. I think you may satisfy yourself of the correctness of this conclusion, by examining hungry larvæ with a good magnifying glass."

G. M. DOOLITTLE remarks: "By holding a comb just right in the sunlight, any person can see one end (the head) of the larval bee constantly moving, and I had always supposed that they were eating or drinking the chyme fed them by the nurse bees. Prof. Cook says they eat; but Mr. J. Rutherford (page 232) seems to think that Prof. C. and myself know little if anything about these things."

Storing and Fumigating Combs.

Query, No. 72.—I have about 1,000 empty combs; how can I protect them from the moth? and what is the best method of fumigating them?—J. R. A.

G. W. DEMAREE answers thus: "I preserve my combs by hanging them so as not to touch one another, in a room that is as light as large windows will make it. I have never had any trouble with the moth-larvæ in my combs when managed in this way. A friend of mine keeps his empty spare combs in empty hives, and fumigates them once a week, using his smoker to blow the fumes of sulphur into the hives."

W. Z. HUTCHINSON replies thus: "Put the combs into empty hives, or hang them upon a rack. Do not get them too close together, but have them an inch or two apart; two inches is better. I have never yet found fumigation necessary."

DADANT & SON remark: "Pile your hive full of comb, if they have loose bottoms, on an empty hive; fill all the entrances, then burn sulphur in the empty hive."

G. M. DOOLITTLE replies as follows: "Place the combs in a tight room, box or barrel, and burn sulphur in the room. I use a cupboard 3 feet deep, 4 feet wide and 6 feet high, filling it with combs to within one foot of the bottom. On the bottom I place a kettle of coals, and on the coals pour ½ lb. of sulphur, after which I place an arched tin over the kettle so the heat will not melt the combs; then the door is closed, and left 24 hours."

PROF. A. J. COOK remarks thus: "Place them in close hives or in tight boxes. It is easy to fumigate in hives by piling one above the other, in case they have movable bottom-boards. Place an empty hive on top, and a smoker containing burning sulphur in it. Cover all with a buffalo robe or other close cover. The heavy sulphur fumes will go to the bottom."

JAMES HEDDON answers as follows: "I have about 4,500 empty combs, and all of them that lost their bees early enough that they have been exposed to a temperature as low as 14° above zero. I shall keep them anywhere where bee-moths cannot get at them; and those that have not been so exposed, I will place in supers (open top and bottom), and pile these crosswise of each other, and put them in my deep, cool cellar, placing the combs so they will not touch each other, and then ventilate the cellar to its fullest extent. The larvæ of the bee-moth cannot flourish in a draft or cool atmosphere. They seemingly flourish with no air at all—at least no change of air. I find no need for fumigating combs."

Local Convention Directory.

1885. *Time and place of Meeting.*

June 5.—Mahoning Valley, at Newton Falls, O.
E. W. Turner, Sec., Newton Falls, O.

June 19.—Willamette Valley, at La Fayette, Oreg.
E. J, Hadley, Sec.

July 15.—Central Illinois, at Bloomington, Ills.
Wm. B. Lawrence, Sec.

Dec. 8—10.—Michigan State, at Detroit, Mich.
H. D. Cutting, Sec., Clinton, Mich.

☞ In order to have this table complete, Secretaries are requested to forward full particulars of time and place of future meetings.—ED.

* * *

☞ To create Honey Markets in every village, town and city, wide-awake honey producers should get the Leaflets "Why Eat Honey" (only 50 cents per 100), or else the pamphlets on "Honey as Food and Medicine," and scatter them plentifully, and the result will be a DEMAND for all of their crops at remunerative prices. "Honey as Food and Medicine" are sold at the following prices:

Single copy, 5 cts.; per doz., 40 cts.; per hundred, **$2.50.** Five hundred will be sent postpaid for **$10.00**; or **1,000** for **$15,00.** On orders of **100** or more, we will print, if desired, on the cover-page, "Presented by," etc. (giving the name and address of the bee-keeper who scatters them).

* * *

☞ **Sample Copies** of the BEE JOURNAL will be sent FREE upon application. Any one intending to get up a club can have sample copies sent to the persons they desire to interview by sending the names to this office.

CORRESPONDENCE

Explanatory.—The figures BEFORE the names indicate tho number of years that the person has kept bees. Those AFTER, show the number of colonies the writer had in the previous spring and fall, or fall and spring, as the time of the year may require.

This mark ⊙ indicates that the apiarist is located near the centre of the State named: ♁ north of the centre ; ♀ south ; O+ east ; +O west; and this ♂ northeast; ⟍O northwest; O⟍ southeast; and ♀ southwest of the centre of the State mentioned.

New Jersey and Eastern Convention.

The New Jersey and Eastern Bee-Keepers' Association met in Clarendon Hall, New York City, March 11, 1885, at 11 a. m. The Secretary's report and minutes of last meeting were read, accepted, and placed on file. The Treasurer not being present, his report was postponed till the afternoon.

The following is the President's address: It affords me a pleasure to meet you all as brother bee-keepers ; for it is with us as with our bees, a real pleasure to have a good old-fashioned swarming-time. But we can boast of better judgment than they, in that we do not occupy the busy season for this pastime, but select the spring and fall. Very approprite times it seems to me for us to gather and exchange congratulations,thoughts, and experiences, and lay our plans for future action.

The little bees must unite their efforts and spend themselves for the good of a common cause ; so if we would make our convention a grand success, we must come together upon a common footing, and by a free and social intercourse, gain from each other that information as well as inspration that will enable us to plan our spring campaign with more certainty of success, and pursue it with more energy.

Our occupation is one that calls for our best efforts, and we know that what is worth doing at all is worth doing well. Where can we find an industry that is more worthy of our attention ? For it is nothing less than the gathering of that choicest of nature's sweets, which poets have chosen to call the "nectar of the gods ;" and the fact that it comes to us direct from the same hand that has so gorgeously decked the lilies of the fields, should prompt us to study well the means which supreme wisdom has given us that we may gather and appropriate so great a bounty. It seems to me to be a wanton disregard of opportunities for one who lives among the flowers of the country to allow their nectar to waste. And more than this, the study of the bee, its ways and habits, brings to us such forcible examples of industry, wisdom and political economy, that it would be strange indeed to find one whose attention is devoted to this ennobling pursuit ever to become a disgrace either to society or the State.

But mere sentimental bee-keeping is like faith without works ; it leads one to bankruptcy. We must not forget that it is "by industry we thrive." We are too apt to indulge in the sentimental and theoretical, and neglect the practical. The important question for us to consider is, how to make bee-keeping pay ; for true it is that only a few have acquired any considerable fortune in this direction. But this is so in all other occupations. It is only the few that rise to prominence in any business or profession. The great majority trudge along securing only a bare living, and the old adage is as true for us as others, that "it is the man that makes the business, not the business the man."

The essential elements of success in bee-keeping are location and qualification; when either is lacking, failure is certain. We can select our location. Our country is broad and honey free, but to be fully qualified to keep bees is no small attainment. It is to know how to direct the efforts of the little bees, so that they will be able to gather the greatest amount of honey possible. It requires patient study and observation to know and understand the laws that govern their instinctive actions. And to this end we meet in convention that we may compare notes and experiences, and thus give to all the benfit of the knowledge of each. Our interests are in common ; then let us do all we can to assist each other, and thus raise our "sweet" occupation to a higher standard of perfection, and to that end let each add his mite to promote the interests of this association.

The subject of wintering bees was then discussed, each member describing his method of preparation and the results, after which the convention adjourned until 2:15 p. m.

At 2:15 p. m., Prof. Kroeh, the treasurer, being now present, rendered his report, which was accepted and placed on file. An essay was read by the Secretary, from John Aspinwall, on "Bee-Keeping for Knowledge or Profit."

The subject of "Spring Management" was next taken up and discussed as follows :

Prof. Kroeh : I feed with an entrance feeder at evening, and robber bees do not trouble ; but the bees will not remove all the syrup. I do not know but what I feed too late, or else the syrup is too thick.

Mr. King thought, as a general rule, the syrup was made too thick, as in breeding, bees need great quantities of water, and he would suggest that the syrup be fed very thin, and in this way stimulate and supply the necessary water at the same time. In stimulative feeding put the enameled cloth under the cushion that the moisture may be retained, which is very necessary in breeding.

Mr. Dean said that he had the best success in pouring the feed down between the combs, besides its being a very rapid method of feeding.

Mr. Dean wished to know how he could get early drones so that his queens might fertilize before his neighbor's native bees could mix with his. In reply, Mr. Hutchinson said that he cut out a piece of drone-comb and put it in the centre of a favorite colony long enough ahead of the queens, that they may be old enough to fly when a queen is hatched in the early spring, or about March 1.

The next subject was, "Foundation—its manufacture and use."

Mr. Crane : Does it pay to manufacture your own foundation ?

Mr. King : Not unless one is going to use large quantities—say 1,500 or 2,000 lbs. per year—or unless one is so far from supply dealers that he could not secure it on account of large freight or express rates.

Prof. Kroeh said that one had only to use 500 pounds per year to make it pay.

Mr. Vescelius said that it was a great loss of money to fill the brood-nest or even sections with foundation.

Mr. Treadwell said he could see the loss, but not in the same way that Mr. Vescelius did ; that it was a loss of time and honey, which the bees consumed while building comb, and of course that was where the loss came in, but he would rather pay 60 cents per pound than allow the bees to take $5 from him.

Mr. King said that it would pay to use foundation at $1 per pound.

Mr. Hutchinson said that his trouble from using full sheets of foundation in frames, was that if he put a swarm on full sheets of foundation, the heat and weight of the bees would break them down ; but Mr. Crane simply runs a wire from one corner to the other, that is, from top to bottom, one on each side, running different ways.

"The comparative merits of the different races of bees" was then taken up.

Mr. King said that he had always found the Italians the best bees for all purposes, but considering that different locations were more suited to the strain that did the best in that certain location. He had, about one year ago, taken 100 colonies of Italians and 10 colonies of Syrians to Cuba, and from the reports of them he was convinced that the Syrians were the best bees for that climate. Why ? Because the Italians would stop breeding to a certain extent as fall approached, and that is just the time they want their bees breeding most, as their principal honey flow is in the winter. On the other hand the Syrians bred right along, and very fast, thus being very strong in numbers at the right time. He thought this proved that it was necessary to select the strain that is best fitted for the place in which one wishes to locate.

Mr. Treadwell had 10 colonies of Syrians, and would not give them yard room, as they were not only very savage, but were such prolific breeders that they consumed all the honey in rearing brood. Up to the present time he is in favor of Italians, but thought he might change his mind before another season, as from what he had seen and heard of the Carniolan race, he thought the chances were in their favor.

The subject of "Reversible Frames" was next discussed.

Mr. King that all he had heard and seen about the reversible frame was in commendation of it, and thought it was yet to be an important factor in bee-culture.

Mr. Cook had tried the reversible frames on a few hives, and liked them sufficiently well to continue their use. He likes Mr. Heddon's way of reversing the best.

The convention then adjourned until 7:45, when the question, "Is a standard frame desirable and practical ?" was discussed.

Mr. Crane said he favored a standard frame, because it was very handy when buying or selling bees, or even nuclei, to have them on frames that would slip into your own hives without trouble.

Mr. Cunkey said that he thought we might as well try to get the public to adopt a standard shoe, as to get old bee-keepers to adopt a standard frame.

Mr. Peet said he favored the Langstroth frame, and thought if a standard frame was ever adopted it would be that frame, as all the principal apiarists were using them.

Mr. Treadwell said that some of our bee-keepers would not get out of the rut, but would keep one size frame just because their fathers had used that size, but thought that a standard frame was desirable if only to be used by beginners.

It was, however, decided that a standard frame is practical and desirable. After discussing the marketing of honey, the convention adjourned to meet at 10:15 a. m., on the next day.

The convention was called to order at 10:15 a. m. on March 12, with President Cook in the chair. The question, "Is feeding bees with meal in early spring to be encouraged ?" was the first brought forward.

Mr. Treadwell said that he had given meal to his bees, but they would not touch it.

Mr. King : If they would not take it, I think it shows very conclusively that they did not want nor require it ; but still I think that the feeding of meal should be practiced, for one colony in ten might have enough pollen from last season to last until new pollen comes in, but the other nine should require it. I would put the unbolted rye-flour in shallow pans, with some cut straw for bees to light on, for we well know that a bee breathes under the wings, and if they get down in the flour they cannot get out, and will smother.

Mr. Blauvelt: I have had hard work to get my bees to take flour, and at times have sprinkled it on them at the entrance, and found that in this way they would take it from the pan. I have used both rye and wheat flour, and like one as well as the other.

Mr. Tucker: My bees carry pollen in the fall, and store it with honey, and cannot see that there is any need of feeding meal.

"Queen fertilization" was next discussed.

Mr. King: I believe that Mrs. Tupper was the first who had queens fertilized in confinement. She takes a wire-cloth box 6 inches square and about 6 inches deep, then takes about half a dozen drones from favorite colonies and places them in the box, and places the box in the cap of the hive, in place of the surplus honey boxes. This, of course, is about the time that queens are ready for fertilization, and leaves them there about 36 hours; and when removing the box she finds one drone dead, and then knows that the queen is fertilized. I tried this in several cases, and did in one case find the dead drone, but that is the only time; then there is the Kohler process, which is to confine the drones of the colony from which you want your queen fertilized, and when, after 4 o'clock, the drones stop flying, then release the queen and the drones of this colony, and generally you will receive gratifying results. Again, I can mention parties who have had queens fertilized in the cells.

Several members took part in this discussion, but had nothing definite to advance on the subject.

"How does bee-keeping compare with other pursuits, and what are the essential qualities to make a bee-keeper?"

Mr. Treadwell: I believe it is just as essential to have energy, perseverance and intelligence in bee-keeping as any other profession; for profession it is, and the man who has not these qualities has a very small chance of being successful.

Mr. Tucker: Let the bee-keeper have an education in the bee-line, and he is very sure of success, and could do as well, if not better, than in other pursuits.

President Cook then called on Mr. J. N. Casanova, of Cuba, for his opinion as to the bee-business. He said: I went into the business to make money, and for no other reason. I started with 100 colonies, and by my superintendent's not being used to keeping bees in Cuba, we lost a great many; so that they decreased from 540 colonies to 113 that could be counted on for honey. From these 113 colonies we obtained 43,000 pounds of honey, from Dec. 1 to Feb. 1, the largest amount from one colony being 650 pounds. They average about 400 pounds per colony. I use the two-story eclectic hive, frame 10x15 inches. I made $2,000 over all expenses, or 100 per cent.; and now that we have had one year's experience, and know how to treat the bees at the proper time, I expect, next season, to make 800 per cent. I sent 20 tierces of honey to New York, and received 6 cents per pound. I can send honey here, and make money on it at 5 cents per pound, but I will send no more to New York, as we can get more money for it in Germany.

The following essay was read by Mr. A. J. King, on the subject of "Bee-Keeping in Cities:"

To persons unacquainted with the natural history and habits of the honey-bee, their scientific management, and also the flowers—their natural counterpart and the source of their bountiful supplies of delicious honey—to such persons we say, the idea of keeping bees in cities is simply preposterous, associated with syrup-soaked street-garbage, sweepings from candy-factories, the refuse of sugar-houses glucose-mixing establishments, etc. But to persons scientifically and practically familiar with this subject, the cleanly habits of the bees and their decided preference of the nectar of the flowers, to all other sources for their supplies—to this class "city bee-keeping" presents no insuperable barriers.

When we consider the tireless vigor of the bee, the wide range of its flight, far excelling in swiftness the fastest express train, coupled with a knowledge of the extent and variety of the honey-producing flora abounding in the yards, gardens, parks, and in all the suburbs of our city, the subject not only looks possible of accomplishment, but it is perfectly feasible and inviting. It has been repeatedly demonstrated by men whose integrity no bee-keeper doubts, that in times of the best honey-flows, single colonies have stored 10, 20, and 30 pounds per day, and that the amount stored during the season was apparently limited only by the shortness of the period of bloom of the flowers affording the honey; yet in many instances these sources have held out until 300, 500, 700, and in one instance 1,000 pounds were secured from a single colony. Thus it is proven beyond a doubt, that were it possible to keep up the bloom, the flow would continue and the crop of the season would be limited only by its length and the number of bees employed.

The honey secreted to-day, if not gathered, is lost by evaporation, and a fresh supply is furnished to-morrow. In estimating the amount of honey which any given city would produce, it would be necessary to multiply the number of flowering trees, shrubs, bushes, vines, plants and grasses, by the number of blossoms on each, which one will readily imagine would be a hopeless task, as it would doubtless run far into the thousands of millions, and this would have to again be multiplied by the average amount of nectar each blossom contained. In the country where clover and basswood are yielding nectar, there are few localities where more than one in ten of the blossoms are visited by the bees, simply because of the disparity of their numbers in comparison with the number of blooms to be visited; while in and around a city there are probably not more than one-tenth the number of blooms, so that with the same number of bees all flowers would stand a fair chance of being visited.

All the large cities of our seaboard are made up of a population embracing nearly all nationalities on the face of the globe, and each person would be likely to cultivate in his own yard or garden, and give his influence to have cultivated in our public parks, whatever was familiar and dilightful to him in his native land. Hence, the almost numberless species and varieties of the floral kingdom everywhere seen in our visits through the parks and gardens of our cities. Now, as this diversified flora came from all habitable latitudes of the world, so each would naturally require as nearly as possible the same atmospheric conditions in order to bring out its nectar-producing qualities in the greatest perfection. Any one at all familiar with meteorology, knows that we are living in a climate noted for its rapid variations in temperature and moisture, embracing in its wide range a difference of more than 100° from one extreme to its opposite; that between these wide extremes are embraced all the various temperatures necessary to bring out the nectar from the numerous species and varieties of flowering forage we have referred to. Now, we claim that all the above conditions logically put together, sufficiently accounts for the fact, that in our city there are very few days between the blooming of the willows and soft maples in early spring and the appearance of Jack Frost late in the fall, but that the ever-watchful and industrious bees gather some honey; and at the same time it disproves the vile slander of their being street scavengers. Further, it proves beyond successful contradiction the truth of what we have asserted on other occasions, "That in the country where the honey-flows are few and far between, because the sources are comparatively few, if they would fill up the gaps occurring between the honey-yielding periods of those they have, with some of our city species, that instead of a few hundred pounds of honey per colony being deemed almost fabulous, 1,000 pounds per colony would become a reality not so rare as it is at the present time.

It is well known to practical apiarists that bees seldom visit the flowers in the immediate vicinity of their own home, preferring apparently to exercise their wings before loading up with the precious nectar. Just how far they could be induced to fly, was long an object of speculation till finally numerous experiments have proven beyond doubt that where no forage is nearer they will fly 7 miles for their stores, and that they will lay up a surplus at distances from the source of supply varying from 3 to 6 miles; and further, they will forsake the best artificially-prepared food whenever the flowers are yielding even a moderate supply of honey. In the light which our subject now stands, it is easily seen that where colonies are located on the tops of buildings, where their flight is unimpeded, they will store quantities of fine honey in our largest cities. Happily we are not left to theory or conjecture on the subject, as it has long since been put to the test of practical experience, and always, so far as we know, yielding results surpassing the expectations of the experimenters.

For the last 15 years, Mr. W. J. Petitt has had an apiary of from 50 to 75 colonies only a few paces from that busy thoroughfare, Snargate St., Dover, England. At vast expense he has scaled the high cliff at the back of his residence, by means of stone steps, and built on its top one of the finest apiaries to be found in England. There are very few inducements in the immediate vicinity for the bees, as the place is devoted largely to manufacturing, but away to the southeast, and northeast, are the tall white cliffs of Dover, where the industry of man has not yet penetrated, but innumerable flowers of many varieties have found a lodgment, and Mr. Petitt's army of workers have found them, and the rugged and apparently sterile cliffs which few people have ever regarded as of any earthly use, except to frown defiance at the foreigner, now yield bountiful harvests of nature's purest sweets. This apiary has all the modern improvements.

Neighbour & Sons, of London, have for years carried on an apiary with profit. The Halls in New Orleans, and Mr. Muth in the centre of Cincinnati, are examples of successful bee-keeping.

In 1874 we placed one colony of Italians in a window on Barclay street, this city, and were surprised at their storing us 75 pounds of delicious honey. We repeated the experiment the next year with an apiary averaging about 40 colonies on top of the American Express building, where we were still more surprised at the marvelous performance of our little pets. One swarm hived in June in a new hive without foundation or help of any kind, storing 123 pounds of comb honey. Since that time we have come to look upon a city apiary as one of the chief factors in the success of our business, and have kept from 50 to over 100 colonies at a time.

The honey thus obtained has always been of fine quality, especially that stored from Catalpa, Alanthus, and the Rose of of Sharon, the latter being the finest honey, both to the eye and palate that we have ever seen. and our customers have usually chosen it in preference to white clover honey from the country.

Like the measles, "city bee-keeping" proved contagious, and soon quite a number of gentlemen and ladies in this city and Brooklyn have caused small apiaries to spring up in places where the thing was never dreamed of. Mr. Lovejoy of 18th street, Brooklyn, now deceased, kept for three years an average of about 30 colonies, and obtained an average of 75 pounds of honey per colony. Mr. Mingay, of this city, kept about 10 colonies with about the same results ; otheas have obtained from 75 to as high as 150 pounds from single colonies, while still others from lack of knowledge or courage, or both, have failed to realize so much.

Not only in point of honey-production does the bee commend itself to the residents of cities, but all lovers of flowers find that those cross-fertilized by the agency of bees, are more fragrant and exquisitely beautiful than when self-fertilized by the wind in the usual way ; also the fruit from trees, the blossoms of which have been freely visited by bees, is found to be greatly improved in both quantity and quality. After bees were introduced into the royal gardens of London, a few years ago, the peach crop at once increased one-third, and the fruit was improved in every way.

To the philosopher, the naturalist, the poet, the theological student, and, in fact, to all interested in the mysteries of nature, the bee is a source of never-failing instruction—a kind of epitome of grand truths scattered through all the sciences. Types of toil to impart courage to that great struggling mass of humanity called the "laboring classes." Models of government never yet surpassed by any nation in the world, possessing a political economy so perfect that theory and practice are one and the same, and whose laws never change, because change would mar them. The architecture of their homes combine in one, the greatest possible strength with the least possible amount of material and the greatest economy of space. This fact has been demonstrated with perfect exactness by our most learned geometricians. The workings in the beehive in all its diversified labors bears the unmistakable marks of intelligent design, and in the display of its hundreds of adaptations of "means to ends" puts to shame the pretensions of the so-called scientist who seeks to banish the great Intelligent Designer from his own universe.

Contemplating these wonders of the hive, Plato denominated the bee a "ray of the Divinity," and Virgil, the most gifted of the Latin poets, called the bee a "magazine of all the virtues." To name all the manifestations of this ever abiding intelligence of the bee under all varying circumstances of its life, would require a volume, and we have only alluded to it in order to point out the way in which pleasurable instruction and pecuniary profit may be united in one by those residing in cities, and who on this account have supposed they were cut off from the pleasure and profit of bee-keeping.

New York City.

The subject of "Foul Brood" was then taken up, and an essay on this question, from Prof. Hasbrouck, was read.

Mr. King: Mr. Frank Cheshire has given as the proper mixture for foul brood, as used by him, one part of absolute phenol to 500 parts of sweetened water. Feed it, and also use it to spray the bees and combs.

On motion of Mr. King, a vote of thanks was given to Mr. Cheshire for his discoveries and most effectual cure for this dreaded enemy. The Secretary was ordered to forward this expression of thanks to Mr. Cheshire, by mail.

Mr. Casanova: Our superintendent has used Mr. Cheshire's remedy for foul brood with success.

Prof. Kroeh: I have never seen a case of foul brood, nor do I want to. I think it a good plan to be particular from whom we buy our bees, and thus escape this dreadful enemy.

The convention then adjourned until 2 p. m., when the election of officers was held, and resulted as follows: Mr. A. J. King, Jersey City, President; Mr. J. V. Hutchinson, of Trenton, N. J., Vice-President; Prof. C. F. Kroeh, Orange, N. J., Treasurer; and Mr. Wm. B. Treadwell, Riverdale, N. Y., Secretary.

The convention then resumed the discussion of subjects, and "Building up colonies in early spring" was taken up.

Rev. Mr. Patton: I fear that I commenced feeding too early, as the bees will not take feed from the entrance, but take it quickly enough when poured down between the combs.

Mr. King: I would prepare the bees in August or September, so that it would not be necessary to disturb them so early in the spring. I also use the common brown sugar for stimulative feeding, and find it very much better than white, and not so expensive.

The subject of "Bee Forage" was then opened by Dr. Patton, who said: I have sowed quite a lot of sweet clover in waste places near my apiary, and transplanted it as it came up, and as far as my experiment goes, there is nothing like it for a honey-plant. I have seen my bees work on it early and late, in fact so late at times that I wondered how they could see their way home. It will secrete nectar at all times, be it wet or dry. I also like the mustard plant very well as a late plant, for it commenced blooming after buckwheat, and continued till long after frost, and I saw my bees carry honey from it on Dec. 5.

Mr. King: I would not recommend the mustard plant too strongly, as it spoils the honey, or at least the honey that it produces tastes so strong of mustard that it really spoils its sale. It was introduced into California about 100 years ago by the Spanish priests ; at certain seasons of the year the honey brought in by the bees is so strong of mustard that it is virtually spoiled. I am more in favor of Alsike clover, and think all farmers should raise it instead of the red, as it is far superior for fodder.

Mr. Tucker: I live at Ocean Grove, N. J., and I found that my bees kept very busy last season during the drouth, and I could not imagine what they were at work on, but at last found it in the woods. The plant has a blossom in the shape of a cone, and about as long as my finger ; has a most beautiful flower, and very fragrant. I learned that some called it the spiral flower.' It grows on a bush about 3 feet high. I found it in all places, in sand or clay, wet or dry, and I think that if beekeepers will plant one acre of it, it would make grand forage. I do not know whether it grows from the seed or not.

Mr. C. H. Luttgens, of Philadelphia: I think that the blossoms Mr. Tucker speaks of, are what is called Clethra Alnifolia, and is found generally along the New Jersey coast in swamps ; I have found them between Newark and Orange, and believe they are up as far as Trenton. I think that bee-forage is a verg important factor in our business, for one plant will secrete in one section and not in another. I know a man in Germantown, Pa., who sowed several acres of buckwheat, but did not get a pound of honey, and in Germany white clover does not yield honey at all, but their principal honey harvest is from Indian bean.

Mr. King: I would not sow one thing only, but several, so that if one failed the other would yield, and in this way we can get a perpetual flow of honey.

Mr. Crane: I am in a section where there are quantities of chestnuts, and have heard that in sections where chestnuts grow, that it was a poor honey country. I find that wild bees go to the chestnut, but not the honey-bee. I think there is nothing like Alsike clover as a forage plant for bees. I bought a bushel of seed last season, and gave it to my neighbors, and it paid me well for the investment.

The subject of "Natural vs. artificial swarming" was then taken up, on which opinions were about equally divided.

Mr. Tompkins, of Newark, occupied considerable time in speaking of the merits of hair-felt for winter packing; after which the convention adjourned to meet at Trenton, N. J., early in November, due notice of which will be given.

Wm. B. Treadwell, Sec.
Jos. H. M. Cook, Pres.

For the American Bee Journal.

The Cause of Winter Losses.

W. H. STEWART.

I have tried to read carefully all of the many wise and otherwise articles that have appeared in the Bee Journal in regard to what is termed "The pollen theory," and I must say that I think Mr. Heddon deserves the thanks of all who are interested in apiculture for the unyielding energy which he has manifested, and for the costly experiments that he has tried in his efforts to solve a most important problem ; viz., is the consumption of pollen by the bees in winter confinement the prime cause of bee-diarrhea, at that season of the year? Bee-keepers should feel grateful for the many good thoughts that have been given for and against the pollen theory. "Investigation is the beginning of wisdom." If all were of one mind, there could be no investigation.

I have had about 40 years' experience in the handling of bees. I have several times lost all, and again nearly all my bees by what is sometimes called "winter killing." I had long ago made up my mind that continued cold was the true cause of most of our winter losses ; and when the pollen discussion became well underway, I decided to wait and see how the matter would turn out ; and now comes the frank and candid article by Mr. Heddon, on page 213, which I have read over and over, and if I am able to comprehend the true lesson that Mr. Heddon's costly experiments teach, then I am confirmed in my opinion that continued cold is the prime cause of bee-diarrhea.

Mr. Heddon tells us that he had, last winter, 49 colonies well packed in chaff, and mostly deprived of pollen, and well supplied with sugar syrup, and that he expected to winter them ; but that they are all dead. This experience should prove that the chaff hive theory is unreliable for successful wintering; also that the consumption of pollen is not always what sweeps whole apiaries out of existence; and Mr. Heddon frankly acknowledges that it was “cold, too long continued” that killed them.

I am of the same opinion that it was “cold, too long continued” that was the main cause of the loss. I wish to ask Mr. Heddon whether he would not have concluded that it was the consumption of pollen as the prime cause that killed this 49 colonies if he had left natural stores and plenty of pollen for their winter food, and had given them no sugar syrup? He claims that if bees are too cold, they will eat pollen, and if they eat pollen, they will have the diarrhea.

Mr. H. states that it was continued cold that killed the bees in his “old cellar,” and that none of them had the diarrhea, and none of them had pollen. Does not Mr. H. think that the bees in that cellar would have eaten pollen if it had been present when they had began to suffer because of the cold? Does he not think that if pollen had been eaten for the purpose of counteracting the cold, that the pollen thus used would have caused the diarrhea? Does he not believe that he would have concluded in that case that it was pollen and not continued low temperature in the old cellar that had produced the first discomfort of the bees? Mr. H. asks, “What degree can bees stand?” and then very sensibly answers, “That depends on the duration.” Then, in the next sentence, how frank and manly his acknowledgement that that point “too many of us have overlooked,” and still further, “Forty degrees below can be endured for a short time, but 10° to 15° above will kill bees if continued, diarrhea or no diarrhea. In this point I have been in error.”

How many of us have the degree of self-control that would enable us to carry on a sharp discussion in defence of our opinion, and in the end say I have been in error, I have overlooked a most important point that has a direct bearing on the question? If “weighed in the balance,” would I be “found wanting?” The way I now foot up Mr. Heddon's long, hard work is as follows: 1. Too long continued low temperature. 2. Use of pollen to counteract the continued cold. 3. Diarrhea from long confinement after the use of pollen. 4. Death by diarrhea in continued confinement.

Any one can read the above list of causes and effects and see at a glance that prolonged cold stands at the head. Now the question comes uppermost; how are we to overcome that prime cause of our winter losses; viz., long continued cold? In my first letter for the Bee Journal, I wrote:

Then kindly treat the queen of sweet,
Give her a cozy home.

This we have to do or bee-keeping will never be made a success in this cold climate. Who will now give us the best essay on this most important subject? Mr. Heddon has revealed the “giant in the cellar,” who can drive him out and give him a death blow?

Orion, ♀ Wis.

For the American Bee Journal.

Northern Ohio Convention.

The annual meeting of the Northern Ohio Bee-Keepers' Association was held at Norwalk, O., May 9, 1885, President S. F. Newman in the chair. The Secretary's report of the last meeting was read and approved. The Treasurer's report showed a balance on hand of $11.45.

The election of officers resulted in the election of President, Dan White, New London; Secretary, H. R. Boardman, Townsend; Treasurer, E. R. Gibbs, Norwalk.

H. R. Boardman wintered a large stock of bees in-doors in three different localities, with as good success as usual. The bees are in good condition now. The stores consisted largely of dark, poor honey called honey-dew. He does not consider this honey-dew necessarily fatal to the bees when used as winter food. He wintered several colonies fed entirely on it, late in the season; they wintered as well as the best. His bees were set in the bee-house about Nov. 20, where they remained until April 1, when they were carried out upon the summer stands and fed common wheat flour as a substitute for pollen.

S. F. Newman reports: Our (Newman Bros.) loss has been very heavy. I am satisfied that the loss resulted principally from a failure in having them properly prepared for winter, or in proper condition. I divided them late in the season, leaving them destitute of the necessary stores for winter, and many of them, I am satisfied, perished for lack of food. I carried them out upon the summer stands on April 10, but think they would have been in much better condition now had they been set out on the first warm days in April. I use chaff and simplicity hives; wintered part indoors and part out. I think those out-of-doors wintered best.

The Association adjourned till 2 p. m.

At 2 p. m. the Association was called to order by President White in the chair.

President White reports: My wintering has not been successful, although I have not lost as heavily as some of my neighbors. I have lost too many, and some of those left are not in as good condition as I would like to have them. I use the chaff hive; wintered them out-of-doors. I have not yet lost confidence in the chaff hive to winter in.

J. B. Darling, of Hartland, reports: I lost about 20 per cent. of my bees. I wintered out-of-doors. Those left are now in fair condition.

M. I. Todd, of Wakeman, reports: I wintered my bees in chaff hives out-of-doors. My loss has not been very serious, certainly not as compared with the success of my neighbors. The loss in my vicinity has been unprecedented.

E. R. Gibbs reports: I had 56 colonies last fall. I thought they were well prepared and in good condition for winter. They are all dead. I use chaff hives.

Samuel Fish, Milan, O., reports: I set my bees out of the bee-house about April 20, and thought they were in very fair condition at that time, but they have dwindled very badly since, and are in a very unpromising condition at present; many of them being so weak that they are about worthless. I think they were kept in the bee-house too late. My prospects for honey this season are not very good.

E. Walker, Berlin, reports: I had 35 colonies last fall; they are most all dead. I thought I knew how to winter my bees, but I think I have learned something about it I did not know before.

The reports of several others showed about the same success in wintering; each having a theory to account for the fatal results, but each disagreeing with the others as to the cause of the trouble. The reports show the winter losses to be very heavy. The discussion turned upon the reports already received, and most of the time during the afternoon was spent endeavoring to solve the wintering problem.

A discussion ensued in regard to the proper time of setting bees out in the spring that had been wintered indoors, and it was generally concluded to be a matter of vital importance, at least in some seasons, whether they are set out early on the first warm days, or left in late in the season.

Mr. Fish: What shall I do with my little, weak colonies? Is it policy to unite them now?

Mr. Newman: No; I would not unite them now, but would build them up by crowding them upon as little room as the brood can be made to occupy, by using division-boards, and unite them into strong colonies at the beginning of the honey season; thus keeping all the queens laying eggs during this time, instead of but one in each of the united colonies. There is no advantage in uniting now to have the brood better protected, as the very small amount of bees now in the hives would be proportionately the same in the united colony, unless one of the colonies to be united is queenless, in which case it is always best to unite.

The Secretary agreed with Mr. Newman.

A quite lengthy discussion then ensued upon the use of division-boards in building up light colonies early in the season. Several considered them indispensable, while a few did not attach much importance to their use.

President White made a few remarks upon the necessity of making a thorough preparation of all colonies in the fall, in order to be able to winter with any certainty.

Mr. Todd also made some suggestions upon the same subject; said he was certain that it paid well to give the bees every attention they needed.

After tendering a vote of thanks to the sheriff for the use of the Grand Jury room, the Association adjourned to meet at the call of the Secretary.

H. R. BOARDMAN, *Sec.*
DAN. WHITE, *Pres.*

Philadelphia Press.

Moving Bees in the Spring.

REV. O. CLUTE.

Spring is usually the best season to buy and to move bees, for the hives have then less honey and less brood than at most other seasons. In moving them three things are essential: 1. That they have good ventilation. 2. That the combs be securely fastened so that they cannot shake about. 3. That the bees be securely fastened in. With bees in box-hives all that is necessary, as a rule, is to turn the hive bottom-side up, letting it stand on its top, and then to tack wire-cloth securely over the bottom or open end. In these box-hives the combs are securely fastened by the bees to the top and sides, and cannot shake about. And if the hive is transported standing on its top, the open bottom will give ventilation, and the wire cloth will confine the bees.

Hives with movable combs must have the combs so fastened that they cannot shake. If such combs have not been lifted from the hives, nor their fastenings broken loose, since the previous year, they can often be transported some distance without any other fastening than what the bees gave the combs the previous fall. The gluing done by the bees, and the little supports they often build between the combs, are sufficient, with careful handling, to hold the combs in place. But it is best to be very careful about this.

If there is any doubt about the combs being secure, better take the trouble to fasten them rather than have them strike together and kill the bees in transit. If most of the combs are secured, and only now and then a loose one, the loose ones can be fastened by boring the ends of the top-bar with a brad-awl and setting a small wire nail through the top-bar into the hive. But when most of the frames are loose, or when the bees are to be sent some distance with danger of rough handling, it is always best to take special measures to fasten the frames both at top and bottom. To fasten at bottom I use a bent wire. Have screws or nails set in a board so that as you wind the wire from one to the other to make a series of angles like the letter W. When this is of the right length to stretch across the hive cut it off, leaving the ends about three-fourths of an inch long. Now put this wire in the bottom of an empty hive, putting it at a right angle with the direction in which the frames hang. Drive the ends of the wire into the sides of the hive, and, if necessary, fasten the wire at two or three points on the bottom-board by using very small staples, like blind staples. The wire will then stand with its projecting parts upright. Now lift the frames of comb of the colony you wish to transport from the old hive and hang them into the prepared hive, with the bottom-bar of each frame hanging down into one of the open angles of the wire. The wire projecting upon each side of it, will prevent the frame from swinging.

To keep the tops of the frames from jarring together, a thin strip of wood of the right length can be prepared by driving nails through it so that they project about an inch. Then lay this strip across the tops of the frames, with the nails projecting down between the frames, and fasten the strip at each end to the hive. The projecting nails between the frames will keep them in place. Now cover the whole top of the hive with wire cloth, leaving off honey-board or quilt or enameled cloth, or whatever you use to cover the tops of the frames, letting the whole top of the hive have no other cover except the wire cloth. The wire cloth confines the bees perfectly, it gives abundant ventilation, even in the hottest weather, and it allows the bees to be seen by everybody. This last is an important point in sending bees by express. The average porter has an intense horror of stings. Now, if he sees a whole colony of bees with nothing between himself and them except the wire cloth, he will handle those hives with the most tender care.

Then at evening, when all bees are in the hives, nail a strip across the entrance, which will effectually shut them in. Of course it is understood that enough honey is in the combs for the use of the bees. It is a good plan, especially in warm weather, as you are preparing the hives for shipment, to lift up one of the empty outside combs, hold it horizontally, and pour evenly over the surface from a pint to a quart of water. The water will mostly run into the cells, and when the comb is hung back will stay in them, and will give the bees needed water during the journey. I have shipped many bees packed in this way, and never lost one.

Iowa City, Iowa.

For the American Bee Journal.

Southern Wisconsin Convention.

The Southern Wisconsin Bee-Keepers' Association met at the Court House in Janesville, Wis., on May 12, 1885. Although it was a very busy season of the year for farmers, there was a large attendance. The heavy winter loss did not appear to cool the ardor of the bee-keepers in the least. The meeting was called to order by the President. The minutes of the previous session were read, and other business attended to. The statistics of the season were incomplete, only 10 members reporting; and were as follows: Put into winter quarters in the fall of 1883, 415 colonies; took out 406; winter loss, 9; spring loss, 29; sold, 81; bought, 40. Commenced the season with 400 colonies; increase, 261; comb honey produced, 16,516 pounds; extracted, 4,502 pounds; wax, 72 pounds.

The wintering problem and minor topics were then discussed, and many good things said which the Secretary failed to note. All present stated their experience and opinions; those who removed the late unripe fall and aphidæ honey and replaced it with early wholesome honey had good results, but the loss is very large. According to the notes taken, they reach fully 65 per cent. Wintering in-doors gave the best results. Two new members were received.

The next meeting will be held at the same place on the last Tuesday in August, at 10 a. m.

JOHN C. LYNCH, *Sec.*

Gleanings.

Apis Dorsata Once More.

A. BUNKER.

The colony of *Apis dorsata*, mentioned on page 310, after staying for twelve days with me, has absconded, and I hasten to give the results of my first experiment with this bee.

1. Why did the bees abscond? On examination of the comb I found about half a pound of brood had been jammed into a fold of the comb made when putting the comb into the basket for transportation from the hills. It was smelling very rank, and of itself was enough to drive them off, doubtless.

2. I am not sure they had a queen. Before I got them into shape, about a quart of old bees swarmed up on a limb of a tall mango-tree, and after two days they left. At first the entrance to the hive was too small, and I think they could not readily find their comb, and so left. The queen might have been among them.

3. Perhaps this bee cannot be made to stay in a hive at all, yet I am not at all satisfied that this is the case, and shall not be without much more experience.

We have gained some knowledge by this experiment. The young bees, when first hatched, are long and slender, very graceful in their shape and movements, of a soft dark yellow, approaching brown, which changes as they grow older. The abdomen grows fuller, and black bands appear, until the bee appears much darker, not only on the abdomen, but all over. The head, however, at first changes to jet black. As there was a very little unsealed brood when I got them, and all hatched out in 12 days, I judge the time from egg to bee is about 21 days, as with common bees.

The comb of the *Apis dorsata* left with me, measures about 2 feet long by 1½ feet deep. The honey comb and brood comb are quite distinct. The honey comb is placed always *highest* up on the limb of the tree on which the nest is built, and is called by the natives the "honey-chattei." It does resemble a native chattei not a little, in shape. From this, which is on the right in my comb, the brood-comb extends to the left, new comb being added along the whole edge, from the honey comb around to the limb again. The honey comb is 3 inches thick in its thickest part, but built in a cylindrical form. The natives say they have seen this honey-chattei 6 inches in diameter. The cells are 1½ inches deep, and less as the slope changes. There are three honey cells to the inch. This comb is beautifully white, and the walls of the cells are almost transparent. Honey is also deposited among the brood, but it seems to be of a different kind from that in the honey-chattei.

The brood-cells are from ½ to ⅝ of an inch deep. The number to the inch varies from 4 to 4½, or 23 cells to 5 square inches. The brood comb varies a little in thickness, and is about 1⅜ inches, and is a light brown in color. These bees on the comb form one of the most beautiful sights in nature I ever saw. During their stay they built comb and brought honey and water, but they did not at any time work as if they were happy. Just before leaving, there was great running to and fro, and preening of wings and legs, preparatory to flight. Not more than half a dozen bees were left. I put one, just hatched out, on the alighting-board of an *Apis Indica* colony, and it immediately marched in like a queen, and the bees all made way for it. I suspect they got over their surprise and slew it, but I have not seen any results of such punishment. So much for experiment No. 1 with *Apis dorsata*.

Wife says I have no eye for color; that, when first hatched, the *Apis dorsata* are light orange, which changes to darker orange, and then the black stripes appear. She says that Americans do not know what a *chattei* is, and perhaps she is right. It is a cylindrical vessel shaped like a rather flat onion, only it is open on top, and the edge of the hole comes a little above the vessel, and then flares back somewhat. It is, in fact, a jar. This shape proves a very curious feature in the *Apis dorsata* comb, and, when filled with pure white honey, is a sight worth seeing.

Toungoo, Burmah, March 18, 1885.

For the American Bee Journal.

Southern Ohio Convention.

J. W. West, a man living near Martinsville, Ohio, got the idea that if we would form a bee association, we would learn much in regard to bees; accordingly a meeting was held at Martinsville on April 11. A constitution was formed, naming the society "The Southern Ohio Bee-Keepers' Association," and officers were elected for a year. The report of 18 members was, that they all started into winter quarters with 269 colonies, and came through with 236. Loss, 33 colonies. Not a very big loss considering the winter in this locality. The meetings are to be held monthly at such a place as the association shall from month to month determine.

The second meeting was held in the afternoon at Martinsville, May 16. The following points were discussed: "Disposal of the honey product," or which is best, comb or extracted honey? Also some plans were given on how best to produce good honey for market. After that the following motions were seconded and carried: 1. That the Association meet at New Vienna, Ohio, June 20. 2. That each member be requested to take his lady and basket of food to the next meeting. 3. That ladies be admitted to full membership of the Society, free of charge.

The following subjects were selected for discussion at the next meeting: "Which is best, artificial or natural swarming, and why?" "What kind of a house, if any, to winter bees in?" "What are the best methods of producing marketable honey?" "What is the best system of summer management?"

WM. M. NORDYKE, *Sec.*, New Vienna, O. C. R. DAVIS, *Pres.*, Farmers' Station, O.

For the American Bee Journal.

Is the Law Against Bee-Keeping?

S. I. FREEBORN.

I am defendant in a case which is causing me some trouble and annoyance. For the last four years I have kept a lot of bees some two miles or more from my home lot. They are one-half mile back from the main road, where lives a man who has kept 100 or more of blooded sheep. He has sued me in the Circuit Court, laying his damages at $500; alleging, in his complaint, that his pasture is mostly white clover, and that the bees came, in countless hordes, and drove his sheep from the pasture, and that they grew thin, and, in consequence, he has lost many during the winter. He asks that he be given $500 and I pay the costs of the suit. He has engaged two smart lawyers to prosecute the case.

This, no doubt, will appear to many of the readers of the BEE JOURNAL childish and absurd, but to one that has a costly suit to defend, coupled with poor health and plenty of cares without it, it is no laughing matter. My excuse for stating the matter is, that it is of general interest. Our county papers have made mention of it, and it is already widely copied in other papers as a novel case, and it will be a "test case" also. Should the case go adversely, through ignorance or prejudice, it will open the door for more suits of the kind, and soon every bee-keeper would be at the mercy of any one owning a ½-acre of clover, though he might own acres of his own.

My oponents claim that they have a precedent in a sheep and bee suit somewhere in the State. Of course we do not acknowledge that our bees have ever injured the sheep in the least, and we feel that experiment, science, and common-sense will bear us out in this assertion, yet this case, like every other one, has its adherents *pro* and *con*.

The simple fact that there is a case on trial makes some believe there is something in it.

I would also mention that for years some have asserted that bees injure fruit bloom, buckwheat, and other crops. The fact that the bees might take something from their land (be it ever so little), does not suit them—though they may not have the bees or skill to get it themselves, they would rather that the tons of honey that the basswood yields would be lost, than that bees should work sometimes on their clover or buckwheat fields. Messrs. Demaree, Heddon, Miller, Pond, and others, have expressed themselves in sympathy with us in this suit, and I hope, Mr. Editor, that you will lay the same before the readers of the BEE JOURNAL, and ask their co-operation in the matter.

Ithaca, ♀ Wis.

For the American Bee Journal.

Is Bee-Keeping Respectable?

JAMES HEDDON.

What makes a business respected? Leaving out the question of morals, and dealing only with such branches of business as are honorable, I will answer by saying, its usefulness to humanity. What makes a noisy, dirty rolling-mill respected? Its usefulness. What makes horses and horse-stables respected in large cities? Their usefulness. Why do we respect the constant blowing of steam whistles in large cities? Their usefulness. How many branches of business are there that do not carry with them disagreeablenesses, many of which amount to almost a nuisance, but which are never questioned because of their usefulness?

Who is a more useful member of our great pulsating humanity than he who gathers together a wealth that would otherwise be lost? Who accomplishes this in its entirety more than the honey-producer? Why is not our business respected? Why does every one who happens to bring his 15-cent business in contact with ours of a hundred-fold its volume, cry, "Get out of the way with your bother?" I think it is because the general public are not informed of the fact that honey-producing, with modern fixtures and methods, is a business, and of value to the bee-keeper and to his country.

A fellow-bee-keeper in Wisconsin—a man who has assisted every one of us by his works and writings, is sued by a jealous farming neighbor for damages done to his sheep by way of the bees—bees working on the white clover blossoms in his pasture. You laugh. Well, in principle, I laugh with you; but in reality this case is no laughing-matter, but a very serious one, not only to our fellow-beekeeper, but to each and every one of us. There is not one of us who expects to keep a colony of bees that can afford to let this bee-keeper be beaten in this case, for the want of our assistance. How miserable we would feel to have standing on record as a precedent, a case of damages collected for bees gathering honey from white clover, or keeping sheep from grazing!

Some may think that no such a case could be decided against the bee-keeper. Without money and exertion, just such a case of stupidity and chicanery can go to record against every one of us. All know that innocent men have been hung, and guilty ones cleared by such effort and its equivalent—money.

Already, in the case above referred to, two able lawyers have been engaged to do their best to carry this stupidity to success. Such a success would be a terrible blow to our business, our interests, and our natural rights. I have never seen the sued bee-keeper, and I have no more personal interest in him than any other member of the fraternity, but *I* have, and *all bee-keepers* have a radical and just interest in the turn of this case, and one that we all should at once rouse up and attend to.

Though I never before received a letter from this fellow-bee-keeper, he lately wrote me for advice in such a case; and this letter aroused me to now begin the work of a permanent defense-organization—a scheme that I had often thought of when I had noticed how utterly reckless of our rights and interests most people are, while at the same time they bow the forehead of respect to ill-kept slaughter-houses and malarious mill-ponds. I think that an organization can be formed by correspondence, that will perfectly insure justice to every member who will join and deposit $1 to the defense-fund—this fund to be held by the Treasurer ever in readiness to defend us against every encroachment upon our *just rights*. Could not the Treasurer afford to also act as, and do the Secretary's work for the use of this fund, which must always be on hand? It should be his duty to carefully inquire into every case, and make sure that every case defended is a straight forward legitimate attack, with the attacking party at fault.

I need not waste space with detail, for we bee-keepers are, as a class, bright enough to arrange all that as it should be, are we not? Come, let us organize *at once*, and name our man as Secretary-Treasurer and general manager. We want a man whom all can trust, that has the ability, and is so located as to be able to do the office justice, and who has our rights deeply at heart. I will lead off by naming our well-known editor, Mr. Thos. G. Newman, as one among many who, it seems to me, fills all our requirements. Name your choices, and let us perfect our organization. As soon as we are perfectly organized, and it is known, each and every member's just rights will be respected. "In union there is strength," and our Treasurer will be instructed to see that this aggregated strength is morally, wisely, and justly applied in the needed places. He who neglects to defend the right, commits a sin—the sin of omission.

I am glad we can start with a work before us, and at once prove the efficiency and usefulness of such an organization. The case in question is to be heard next October, I believe. Let us have your ideas, fellow-bee-keepers, and yours, "Mr. Editor;" and whatever we conclude is worth doing, let us do well and at once.

Dowagiac, ♀ Mich.

[For editorial remarks on the subject-matter in the two preceding articles, the reader is referred to page 339 of this paper.—Ed.]

* * *

For the American Bee Journal.

Bee-Keeping in Texas.

JOHN A. EMISON.

For the past 3 years I have been a close student and a practical observer of everything appertaining to the management of the apiary. I have from the handling of any apiary, been virtually living with my bees—forming opinions and coming to conclusions at variance with many of the formulated facts or conclusions. However, I presume these variances, as happily expressed by a correspondent, are the result of climatic influence.

I find, by reading the Bee Journal, that there is not that accord or harmony in the management of the apiary that I think there should be. I will give another year to observation and personal management of the apiary before expressing my conclusions.

I put into winter quarters Dec. 18, 73 colonies on the summer stands. The first pollen brought in was on Jan 28. The 73 colonies are all at work; none were lost. We have had an unusually cold and wet spring. Bees have not increased as they should have done. They have by division of colonies increased to 98. I have had but 4 natural swarms. Some three weeks ago my bees began killing off the drones. I then stopped dividing.

I adopted the division of colonies to Italianize my apiary, yet I question the advisability of discarding the black bee. I have some colonies that are as black as night. I find them good workers. My greatest objection to the black bees is their disposition to rob.

The hive that experience has led me to adopt, is rather a compound hive. I run for extracted honey alone. I know that it is contrary to advise given in all the Manuals and bee-papers. However, the strength of my colonies, and the yield of honey, have forced me to the conclusion that it is the hive for this section.

In the brood-chamber I use the Quinby frame—7 frames—for the super or upper story. I have the Langstroth cross, the frame for extracting. I know there is so inconvenience in not having frames interchangeable; however, I find that over-balanced by the strength of my colonies. It is for profit that I run my apiary.

Sweet clover and motherwort are now in full bloom. My bees pay no attention to them. They stood a 5 months' drouth last year. We want some pasturage to come in after the mint. We have many flowers; none, however, seem to give any surplus honey, except the mint. It is the honey plant for this section. My sweet clover bloomed from August to frost, in December of last year. The second bloom may fill the needed want in September. We have the brazil to give the bees full winter stores. I have now 80 strong colonies working on the mint. I am much pleased with "Queries and Replies;" they are short, and to the point.

Mission Valley, ♀ Tex., May 18, 1885.

SELECTIONS FROM OUR LETTER BOX

Bees Gathering Honey.—Dr. J. C. Thom, Streetsville, Ont., writes on May 26, 1885, as follows:

Bees are now booming, and have gathered plentifully from everything that blossoms at this season. Hard maple, willow, plum blossom, cherry, and dandelion all are full of honey. My winter and spring losses will amount to 20 per cent.

Ready for Swarming.—Otto Kleinow Detroit,⌒ Mich., on May 17, 1885, writes thus:

The winter seems to be over now. I have had drones flying for about ten days. I have quite a number of colonies that have from 5 to 7 frames with brood; a few have 8 frames with brood; one has 9 frames with brood. They could not have so many frames with brood if they were in 8-frame hives, as some bee-keepers prefer. My hives are all 10-frame standard Langstroth hives, with frames 9⅛x17⅝. Some of my strong colonies have a good deal of new honey in their hives. I suppose it is from fruit bloom. I expect to have new swarms inside of ten days, as some have queen-cells started.

Bee-Cellar. — J. Peters, Eldora,⊙ Iowa, on May 25, 1885, writes as follows:

Last November I put 70 colonies of bees in the cellar; in April I took out the 70; sold 5; the other 65 are ready for the harvest. I did not feed them; and they have surplus honey yet. My cellar is dry, supplied with air through one window, ventilated by a brick flue from the floor of the cellar through to the top of the dwelling.

Winter Experiments.—R. B. Woodward, M. D., Somerset,⊙ O., on May 22, writes thus:

Fully three-fourths of the bees in Central Ohio died during the winter, especially where kept in the ordinary way. Those who use the latest and improved methods were generally successful. Blacks seem to suffer more than other races. We wintered our 11 colonies successfully; one spring dwindled on account of accident to it while experimenting. They were all wintered experimentally on 5 different sizes of frames, and 4 or 5 different races of bees, and all on summer stands. We were testing different size of frames and different hives side by side.

No Diarrhea or Dwindling.—I. R. Good, Sparta, Tenn., on May 26, 1885, writes as follows:

My bees came through the winter in fine condition, without diarrhea or spring dwindling. They are now booming, working on poplar and white clover.

Bees Building up Rapidly.—L. G. Reed, Kent,♂ Ohio, on May 21, 1885, says:

My bees are doing nicely, and if the weather continues as it has been, and if honey continues to flow, I shall have swarming plentiful by June 10. I have never seen bees build up so rapidly as they have during the past 2 weeks. There is a good showing for white clover now, but dry weather will injure it, if we do not get rain soon.

Wintered Safely.—Mrs. Sallie E. Sherman, Salado,⊙Texas, writes thus:

My bees have all come through the winter safely, and at this time most of them are in good condition. I have no fear of loosing any unless they swarm and escape to the forest. I, however, am going to let them swarm but little, as we now have about as many colonies as we want. We prefer honey to increase, and shall look to that in the management of our bees. We had 4 swarms issue, but by the use of the drone-trap and queen-cage we secured 3 of the queens, and had no trouble in hiving them. The other colony had no trap at the entrance, consequently we had considerable trouble in getting them down from near the top of a tall live-oak We would have had 4 swarms more on the same day, but for timely attention in cutting out queen-cells. This spring has been very unfavorable on bees, for the weather has either been too cool for the secretion of honey or it has been rainy, and thus washed all the nectar out of the flowers. The bees have been barely able to gather enough to keep up brood-rearing. We shall aim to have each colony very strong in time for horsemint, as that is our main dependence for surplus.

Wintering and Modern Transferring.—James Heddon, Dowagiac,♀ Mich., desires to make the following replies to various criticisms that have appeared in the BEE JOURNAL:

I am not able to see that Mr. Clarke answers the arguments and facts I put forth regarding the truthfulness of the pollen theory; neither does he attempt to answer the main facts in the case. If he is going to call the old well-known quietude hibernation, that I have believed for 15 years. If he means what we do, and what his first article led us to think he then meant by the word (he called his theory new), then we repeat "bees never hibernate." Mr. Doolittle is most sadly in error in supposing that the pollen theory does not comprehend the practical and successful wintering of bees. In all candor, I ask all to watch the future results of all of us who abide by the truths of that theory. I invite Mr. Clarke or Mr. Doolittle, or both, to meet me in special discussion upon this subject at our next National Convention, where we may meet and part and settle the argumentive part of this great question as friends earnestly seeking truth. I will say to Mr. Clute that, with perhaps 20 or 30 instances of personal "modern transferring," no bad results have occurred; no brood was lost or chilled. On page 367 of the BEE JOURNAL for 1883, he will see that it is "about swarming time" that we make the first "drive," that we drive a "majority of the bees," not all of them; that we call this a "forced swarm;" that it is of the "second drive," after the brood is all hatched, that we say "drive the bees clean" from the old box. These directions will not take more bees from a hive than natural swarming, when the old hive is removed. Both these performances have been done time and again by many, and I call to mind no reports of brood dying.

No Winter Loss.—T. Heaton, Moore's Hill,○- Ind., on May 18, 1885, writes:

I put into winter quarters 53 colonies, 30 in the cellar, and 23 on the summer stands. They have all come out in good condition with the exception that 3 are queenless. Throughout this locality, as far as I can learn, about half of the bees are dead. The season, so far, has been poor.

Ready to Swarm.—Rev. J. E. Kearns, Morning Sun,+○ Iowa, writes:

My bees all wintered nicely in my safe-wintering hive, while fully nine-tenths of the colonies in this locality are dead. They are now full and getting ready to swarm, notwithstanding the lateness of the season.

Apple Bloom.—W. J. Davis, Youngsville,-○ Pa., writes as follows:

Spring has come with its beauty and its bloom, and the bees are booming. My loss was 12 colonies out of 200; not bad for so severe a winter. The apple blossoms are opening, and I look for some swarming this month. With such princely Italians, I have no desire for Apis dorsata.

Bees Working on the Locusts.—C. T. Biggers, Minerva,♂ Ky., writes thus on May 28, 1885:

Bees are working faster than I ever saw them on black locust, but they are very weak in numbers.

Special Notices.

☞ **O. H. Townsend**, Alamo, Mich., has sent us his new Price List of Queens.

☞ **G. H. Knickerbocker**, Pine Plains, N. Y., has sent us his Price List of bees, Queens, foundation, etc., for 1885.

☞ **Preserve your papers** for reference If you have not got a Binder we will mail you one for 75 cents, or you can have one FREE if you will send us 3 new yearly subscriptions for the BEE JOURNAL.

☞ Our rates for two or more copies of the book, "Bees and Honey," may be found on the Book List on the second page of this paper. Also wholesale rates on all books where they are purchased "to sell again."

☞ We want one number each of the BEE JOURNAL of August, 1866—February, 1867. Any one having them to spare will please send a Postal Card. We will pay 50 cents for one copy of each of the two numbers.

☞ For two subscribers for the Weekly BEE JOURNAL (or 8 for the Monthly) for one year, we will present a Pocket Dictionary, and send it by mail, postpaid.

☞ All who intend to be systematic in their work in the apiary, should get a copy of the Apiary Register and commence to use it. The prices are as follows:

For 50 colonies (120 pages).............	$1 00
" 100 colonies (220 pages)......	1 25
" 200 colonies (420 pages).............	1 50

The larger ones can be used for a few colonies, give room for an increase of numbers, and still keep the record all together in one book, and are therefore the most desirable.

Convention Notices.

☞ The Bee-Keepers' Association of Central Illinois will meet at Bloomington, Ills., on July 15, 1885, at 10 a. m.

WM. B. LAWRENCE, Sec.

☞ The Mahoning Valley Bee-Keepers' Association, will hold its next meeting at Newton Falls, Ohio, on Thursday, June 5, 1885. E. W. TURNER, Sec.

☞ The Willamette Valley Bee-Keepers' Association will hold its second meeting at La Fayette, Oregon, on the third Tuesday in June, 1885. All who are interested are invited to attend. E. J. HADLEY, Sec.

Honey and Beeswax Market.

Office of the AMERICAN BEE JOURNAL,
Monday, 10 a. m., June 1, 1885.

The following are the latest quotations for honey and beeswax received up to this hour:

CHICAGO.

HONEY.—Demand is light and receipts are also light. Prices range from 10@15c. for best grades of comb honey, and for extracted, 5@7c.

BEESWAX.—Best grade weak at 28c.

R. A. BURNETT, 161 South Water St.

BOSTON.

HONEY.—We quote the following prices: Fancy white comb in 1-lb. sections, 16@18c.; the same in 2-lb. sections, 15@16c; fancy white California 2-lbs., 12@14c. Extracted weak, 6@8c. Sales very slow.

BEESWAX.—32 cts. per lb.

BLAKE & RIPLEY, 57 Chatham Street.

NEW YORK.

HONEY—Present sales of comb honey are very slow, and owing to the lateness of the season, we do not anticipate any change in prices until the new crop commences to arrive. We quote at present as follows: Fancy white clover in 1-lb. sections, 14@15c; fair to good white clover in 1-lb. sections, 12@13c; fancy white clover in 2-lb. sections, 13@14c; fair to good white clover in 2-lb. sections, 11@12c; fancy buckwheat in 1-lb. sections, 9@10c; fancy buckwheat in 2-lb. sections, 7@8c. Ordinary grades, no sale. Extracted white clover, 7@8c; extracted buckwheat, 6@6½c.

BEESWAX—Prime yellow, 29½@31c.

McCAUL & HILDRETH BROS., 34 Hudson St.

CINCINNATI.

HONEY—There is no new feature in the market. Our regular customers only are buyers at present. There is almost no outside demand, and low figures are no inducement. We quote extracted honey from 5@8c on arrival, and comb at 9@12c.

BEESWAX—Good demand and arrivals plentiful. We quote 24@28c for good yellow on arrival.

C. F. MUTH, Freeman & Central Ave.

SAN FRANCISCO.

HONEY—Market very quiet. Choice extracted is the only kind which buyers at present care to purchase in a wholesale way, and there is little of this sort offering. No new crop honey has yet arrived; none expected for several weeks. White to extra white comb, 8@9c; dark to good, 4@7c; extracted, choice to extra white, 4¾@5¼c; amber colored, 4¼@4¾c.

BEESWAX—Quotable at 25@62c—wholesale.

O. B. SMITH & CO., 423 Front Street.

ST. LOUIS.

HONEY—Steady; demand and supply both small. Comb, 12@14c per lb., and strained and extracted 5½@6c.

BEESWAX—Firm at 32@32½c. for choice.

W. T. ANDERSON & CO., 104 N. 3d Street

CLEVELAND.

HONEY—Since our last report there has been a little better demand for honey, and some sales have been made at 13½@14c for best white honey in 1-lb. sections. Second quality is still very dull at 12@13c. Extracted is not salable at any price in our market.

BEESWAX.—Scarce at 28@30.

A. C. KENDEL, 115 Ontario Street.

KANSAS CITY.

HONEY—Demand for choice white comb in ½, 1 and 2-lb. sections is good, and prices fairly maintained. Half pound sections, 15@16c; 1-lb., 13@14c; 2-lb., 10@11c. Extracted slow at 5@7c. We could sell some ½-lb. sections of comb honey and a few more nice white 1-lb. sections.

BEESWAX—25@30c., according to quality.

CLEMONS, CLOON & CO., cor. 4th & Walnut.

SAN FRANCISCO.

HONEY—We quote comb honey in 2 lb. sections 13@14c; extracted, 6½c.

GEO. W. MEADE & CO., 213 Market.

New and Enlarged Edition
OF
BEES and HONEY,
OR THE
Management of an Apiary for Pleasure and Profit; by
THOMAS G. NEWMAN.
Editor of the Weekly Bee Journal.
925 West Madison Street, Chicago, Ill.

It contains 220 profusely illustrated pages, is "fully up with the times" in all the improvements and inventions in this rapidly developing pursuit, and presents the apiarist with everything that can aid in the successful management of the Honey-Bee, and at the same time produce the most honey in its best and most attractive condition.

PRICE—Bound in cloth, $1.00; in paper covers, 75 cents, postpaid.

☞ **A Liberal Discount to Dealers, by the Dozen or Hundred.**

☞ The Monthly BEE JOURNAL for a year and the bound book, "Bees and Honey," will be sent for $1.25.

"BOSS" ONE-PIECE
SECTIONS.
Patented June 28, 1881.

PATENTED.
June 28 1881.

One-lb. (4¼x4¼) in lots of		500 to 4,000	$5.00
Ditto	Ditto	5,000 to 10,000	4.50
Ditto	Ditto	10,000 to 25,000	4.00

The one-lb. Section is 17 inches long. For any sizes between 17 and 20 inches in length, add 5 per cent. For any sizes between 20 and 24 inches, add 10 per cent. Add the above per centage to the price of one-lb. Sections in the same quantities.
We make any size or width desired.

J. FORNCROOK & CO.,
BCtf Watertown, Wis., Mar. 1, 1885.

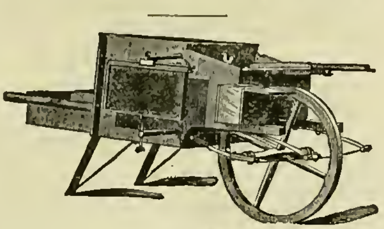
☞ Alfred H. Newman, of Chicago, sells the one-piece Sections manufactured by us.

W. Z. HUTCHINSON,
Rogersville, Genesee Co., Mich.,
can furnish just as neat, white, smooth and perfect, dovetailed, white poplar sections as there are made. Send for sample and prices. A few full colonies of choice Italians in Heddon hives for sale at $8.00 per colony. Untested Italian Queens, $1.00 each. Tested Queens reared last year in the home apiary, $2.00 each. Beeswax wanted. Make money orders payable at Flint. 16Atf

HONEY FOR FEEDING
I **HAVE** 2 kegs holding a trifle over 100 pounds each, of extracted honey, which I will sell at 6 cents per lb. on the cars. It is in wine-kegs and the honey has become flavored so that it cannot be sold for table use It is in good condition and of good quality.
ALFRED H. NEWMAN.
923 West Madison Street, - CHICAGO, ILL.

J. W. ECKMAN,
DEALER IN
Pure Italian Bees and Queens
For further information, send for Circular.
11A13t RICHMOND, Fort Bend Co. TEXAS.

SYSTEMATIC AND CONVENIENT.



DAVIS' PATENT HONEY CARRIAGE,
REVOLVING COMB-HANGER,
Tool Box and Recording Desk Combined.

Price, complete, only..........$18.00.

For sale by **ALFRED H. NEWMAN,**
923 West Madison Street, - CHICAGO, ILL.

BEES and QUEENS
AT GREATLY REDUCED PRICES.
AFTER June 15, I will sell 2-frame Nuclei, with 2 lbs. of Bees in each, for $2.25, without Queen. Tested Queens, $1.50 each. Warranted Queens, $1.00 each. Untested Queens, 75 cents each, of either Syrians or Italians.
I. R. GOOD, Sparta, White Co., Tenn.
22A2t

HEADQUARTERS IN THE SOUTH
For the manufacture of
BEE-KEEPERS' SUPPLIES.
Dunham and Root Foundation a specialty. Italian Queens and Bees from March to November.
☞ Send for my Illustrated Catalogue.
5Ctf **PAUL L. VIALLON**, Bayou Goula, La.

1885.—QUEENS—1885.
ALBINO AND ITALIAN QUEENS,
producing workers to the BEST for purity, docility and industry. Write for Circular. Also have DOLLAR Queens.
22D4t **H. P. DEAHL, Berryville, Va.**

Vandervort Comb Fdn. Mills,
Send for Samples & Reduced Price-List.
ABtf **J. VANDERVORT, Laceyville, Pa.**

BEE-KEEPERS' GUIDE;
Or, MANUAL OF THE APIARY.
12.000 SOLD SINCE 1876.
13th Thousand Just Out!
10th Thousand Sold in Just Four Months!
3,000 Sold Since May, 1883.

More than 50 pages, and more than 50 fine illustrations were added in the 8th edition. The whole work has been thoroughly revised, and contains the very latest in respect to bee-keeping. It is certainly the fullest and most scientific work treating of bees in the World. Price, by mail, **$1 25.** Liberal discount to dealers and to clubs.

A. J. COOK, Author and Publisher,
1C1y Agricultural College, Mich.

☞ For sale also at the Office of the BEE JOURNAL, at wholesale or retail.

REVERSIBLE FRAME HIVES, AND Reversible Frames that will fit any Langstroth Hive. Sample, by mail, 15c.; one set, 8 Frames, by mail, 80c.; by express, 40c.; per 100, $4.00.
O. J. HETHERINGTON & CO.,
13C3t EAST SAGINAW, MICH.

Bee-Keepers, Look Here!!
TESTED ITALIAN QUEENS, reared by natural Swarming, **$1.00** each. Warranted Queens after June 15th, 75 cents each. All Queens sold by me are warranted second to none in every respect. Should any prove otherwise, they will be cheerfully replaced or money refunded. All tested Queens reared in 1884. Address,
22A1t JAMES WOOD, North Prescott, Mass.

Behold this Tear!
—o—
The cause of my grief is, that Doolittle's **best**
ITALIAN BEES
compel me to work so hard to care for their surplus Honey, that I have not attained my growth, even at this advanced age of life. It is a terrible warning to all, not to get any of his **Queens!** but perhaps others tougher than I, could "stand the racket." If any think they can, **Doolittle** will furnish Queens from his **Best Stock** at the following prices:

Untested Queens, each	$1 00
" " per doz	10 20
" " reared by natural swarming, each	1 50
Untested Queens, reared by natural swarming, per doz	15 00
Tested Queens, each	2 00
" " by natural swarming, each	3 00
" " 1884 raising, sent in May, each	5 00
Extra Selected, two years old, each	10 00

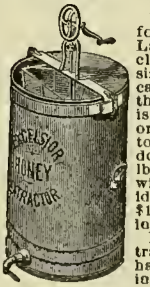
☞ If any further information is desired, send for 6-page Circular. Address,

G. M. DOOLITTLE,
10C5t **Borodino, Onon. Co., N. Y.**

(ESTABLISHED 1864.)
BEE-SUPPLIES.
We furnish EVERYTHING needed in the Apiary, of practical construction, and at the **lowest price.** Satisfaction guaranteed. Send your address on a Postal card, and we will send you our Illustrated Catalogue free. **E. KRETCHMER.**
2C12t COBURG, IOWA.

Friends, if you are in any way interested in
BEES OR HONEY
We will with pleasure send a sample copy of the **Semi-Monthly Gleanings in Bee-Culture,** with a descriptive price-list of the latest improvements in **Hives, Honey Extractors, Comb Foundation, Section Honey Boxes,** all books and journals, and everything pertaining to Bee Culture. *Nothing Patented.* Simply send your address *written plainly*, to
Ctf A. I. ROOT, Medina, O.

EXCELSIOR
HONEY EXTRACTORS



In answer to frequent inquiries for Extractors carrying 3 and 4 Langstroth frames, I have concluded to adopt these two new sizes. The 3 frame basket is in a can of the same size and style as the 2 frame. The 4 frame basket is in the larger can, with the cone or metal standard for the basket to revolve upon, leaving room underneath the basket for 75 or 80 lbs. of honey. It will be complete, with covers, and in every way identical, except in size, with the $16.00 Extractor, 13x20, which is intended for any size of frame.

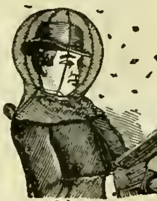
Excepting with the $8.00 Extractors, all the different styles have strainers over the canal leading to the honey gate, and movable sides in the Comb Baskets. The $8.00 and $10.00 Extractors have no covers.

For 2 American frames,	13x13	inches	$8 00
For 2 Langstroth "	10x18	"	8 00
For 3 " "	10x18	"	10 00
For 4 " "	10x18	"	14 00
For 2 frames of any size,	13x20	"	12 00
For 3 " "	13x20	"	12 00
For 4 " "	13x20	"	16 00

ALFRED H. NEWMAN,
923 West Madison St., CHICAGO, ILL.

APIARIAN SUPPLIES---1885.
ALL-IN-ONE-PIECE SECTIONS, Langstroth Hives, Section Cases, Shipping Crates, Brood Frames, Foundation, Smokers, and all other Supplies needed in the apiary. **ITALIAN BEES & QUEENS** in season. Send for Price-List. Address,
8C6t L. L. TRIEM, La Porte City, Iowa.

A NEW BEE-VEIL.



There are five cross bars united by a rivet through their center at the top. These bars are buttoned on to studs on the neck-band. The bars are of best light spring steel; the neck-band of best hard spring brass; the cover is of handsome light material. It is very easily put together, no trouble to put on or take off, and folds compactly in a paper box 6x7 inches by one inch deep. There would be no discomfort in wearing it either day or night, and the protection against Mosquitoes, Flies, Bees, Gnats, etc., is perfect. The weight of the entire Veil being only five ounces. **Price, by Mail or Express, $1.00.**

Special discount to dealers, on ½ dozen or larger quantities.

ALFRED H. NEWMAN,
923 West Madison Street, - Chicago, Ills.

$200,000 *in presents given away.* Send us 5 cents postage, and by mail you will get *free* a package of goods of large value, that will start you in work that will at once bring you in money faster than anything else in America. All about the $200,000 in presents with each box. Agents wanted everywhere, of either sex, of all ages, for all the time, or spare time only, to work for us at their own homes. Fortunes for all workers absolutely assured. Don't delay. H. HALLETT & Co.
51A1y Portland, Maine.

Muth's Honey Extractor,

Square Glass Honey Jars, Tin Buckets,
Langstroth Bee-Hives, Honey-Sections, etc.
Apply to **CHAS. F. MUTH,**
Freeman & Central Ave., - CINCINNATI, O.
☞ Send 10c. for Practical Hints to Bee-Keepers.

BEES, EARLY QUEENS,
AND SUPPLIES FOR 1885.

IF you need **Early Queens and Bees bred for business** and beauty, nuclei or full colonies; sections and hives of best workmanship; **Dunham or Vandervort Comb Foundation,** send for my catalogue for 1885.
Address **J. P. H. BROWN,**
5A21t AUGUSTA, GEORGIA.

A PRIZE. Send six cents for postage, and receive free, a costly box of goods which will help you to more money right away than anything else in this world. All, of either sex, succeed from first hour. The broad road to fortune opens before the workers, absolutely sure. At once address TRUE & Co., Augusta, Maine.
51A1y

Bee-Keepers' Supplies.

We have added to our LARGE FACTORY a SPECIAL DEPARTMENT for the

Manufacturing of Bee-Hives,
AND
White Poplar Dovetailed SECTIONS.
Also, One and Two-piece

☞ All Orders will be filled promptly at the **LOWEST FIGURES,**

Send Stamp for Catalogue and Samples.

The H. F. MOELLER M'f'g Co.
1A26t DAVENPORT, IOWA.

WARRANTED ITALIAN QUEENS!

NO Cyprian or Syrian Bees ever introduced into this lucality. One Queen in May, $1.50; six for $7.50; after June 15, $1 each; six for $5. Send for our **48-page Catalogue,** describing everything needed by bee-keepers. Address,
18A13t **J. B. MASON,** Mechanic Falls, Maine.

Bee Hives
AND
SECTIONS.

NEW SHOP AND NEW MACHINERY !!

The Largest Manufactory of Bee Hives Sections, etc., in the World!

Our capacity now is a **CAR-LOAD OF GOODS DAILY.**

NOTICE.—In enlarging our factory last year, we were put behind with our work so that by spring, were obliged to return many orders. Now we have ample stock ahead and can fill all orders promptly.

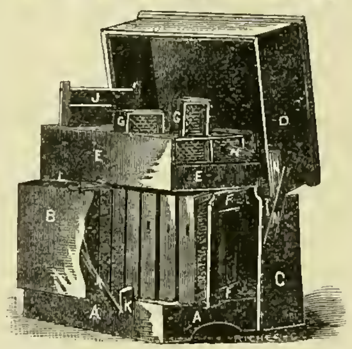
Write for Price-List for 1885.

G. B. LEWIS & CO.,
13ABtf WATERTOWN, WIS.

Dadant's Foundation Factory, wholesale and retail. See Advertisement in another column.

STANDARD

DOUBLE WALLED



CROWN HIVE!

The Best Arranged

BEE-HIVE for all purposes in existence. Sample Hives complete, **$2.50** each; in the flat, in lots of six, **$1.75** each. Descriptive Circular sent FREE. Address
E. ARMSTRONG, Jerseyville, Ills.
19A4t 6B1t

DISCOUNT
ON
WIRE NAILS!

UNTIL further notice, I can make a discount of 25 per cent. from my Catalogue prices on **Wire Nails,** owing to a decline in the market.

ALFRED H. NEWMAN,
923 West Madison Street, - CHICAGO, ILL.

1879. **ITALIAN** 1885.
QUEENS!

FOR ITALIAN QUEENS in their purity, and that cannot be excelled, **Comb Foundation** and **Supplies** generally, send for Circular.

12 UNTESTED QUEENS FOR $11.00.
15Atf **T. S. HALL, Kirby's Creek, Ala.**

Dadant's Foundation Factory, wholesale and retail. See Advertisement in another column.

100 Colonies of Choice **ITALIAN BEES FOR SALE.** Send for Price-List. Address,
W. J. DAVIS, (Box 91)
14A9t Youngsville, Warren County, Pa.

BEE-HIVES, SECTIONS,
FOUNDATION, &c.

WITH a capacity of 7,000 square feet of floor, we claim the best facilities for furnishing Supplies in the southeast. **OUR NEW FACTORY IS EQUIPPED** with the best and latest improved Machinery, which enables us to furnish our goods "up to the times," and will furnish **all kinds at very reasonable prices.** Parties needing Supplies would do well to see our Price-List before buying.

Queens and Bees for 1885!

It should be remembered that we are **headquarters** for the **Albinos,** and make a specialty of this variety. We also breed from select Italians. Send for Circular and Price-List. Address,

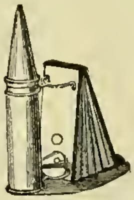
S. VALENTINE & SON, Hagerstown, Md.
13Ctf

DIO LEWIS'
NUGGETS

A remarkable Magazine, crowded with BRIEF ARTICLES on SANITARY SUBJECTS by that most sensible, terse and humorous writer — DR. DIO LEWIS. **Worth its weight in gold!** You can get a sample copy by sending TEN CENTS to the new DIO LEWIS PUBLISHING COMPANY, 69 and 71 BIBLE HOUSE, NEW YORK CITY. 21A4t

WIN more money than at anything else by taking an agency for the best selling book out. Beginners succeed grandly. None fail. Terms free. HALLETT BOOK Co.
51A1y Portland, Maine.

HEDDON CASES — A BARGAIN.—I have 31 Heddon Cases for Comb Honey filled with nice white comb in each section—28 1-lb. sections in each case. These are **genuine** Heddon Cases, well-made and well-painted with two coats of white paint. Will fit any 8-frame Langstroth Hive. Will sell the lot for $15. The best arrangement out for comb honey. I am changing my apiary for extracting.
E. J. SCOFIELD, HANOVER, ROCK CO., WIS.
20A3t



Bee-keepers' Supplies,

Standard Langstroth,

Quinby Standing-Frame,

And all other kinds of **Hives,**

MADE TO ORDER.

Quinby Smoker a specialty.

I shall supply anything you need in the Apiary Send for Illustrated Price List.
W. E. CLARK, successor to L. C. Root,
7A17t ORISKANY, Oneida County, N. Y.

HELP for working people. Send 10 cents postage, and we will mail you *free*, a royal, valuable sample box of goods that will put you in the way of making more money in a few days than you ever thought possible at any business. Capital not required. You can live at home and work in spare time only, or all the time. All of both sexes, of all ages, grandly successful. 50 cents to $5 easily earned every evening. That all who want work may test the business, we make this unparalleled offer: To all who are not well satisfied we will send $1 to pay for the trouble of writing us. Full particulars, directions, etc., sent free. Immense pay absolutely sure for all who start at once. Don't delay. Address STINSON & Co.
51A1y Portland, Maine.

Re-Written and Enlarged! Third Edition of the

BEE-KEEPERS' HANDY BOOK

300 pages and nearly **100** fine illustrations. Price by mail, nicely bound in cloth, **$1.50** per copy. Book and tested Queen of any race, by mail, $2.50. Book and sample Drone and Queen Trap, by mail, $2.00. Our Queens cannot be excelled for beauty, purity, mild disposition, honey-gathering and wintering qualities. Sold at wholesale and retail. Send for Prospectus and Price-List.
22A16t **HENRY ALLEY, Wenham, Mass.**

WEEKLY EDITION
OF THE
AMERICAN
ESTABLISHED IN 1861
OLDEST BEE PAPER IN AMERICA
BEE JOURNAL
PUBLISHED BY
THOMAS G. NEWMAN,
EDITOR AND PROPRIETOR,
925 WEST MADISON-STREET, CHICAGO, ILL.
Weekly, $2 a year; Monthly, 50 cents.

Vol. XXI. June 10, 1885. No. 23.

APICULTURAL NEWS ITEMS.

EDITORIAL AND SELECTED.

Whatever you do in the apiary—always do it well, thereby saving much valuable time and endless trouble.

Some People, says a philosopher, "are always finding fault with Nature for putting thorns on roses; I always thank her for putting roses on thorns."

Avoid Blowing your Breath among the bees while handling the combs. They are inclined to resent anything objectionable in rather a pointed manner.

Doing Good should not be a studied act. By doing the best we can, minute by minute and hour by hour, we insensibly grow to goodness, as fruit grows to ripeness.

Yes; that was the reply we made to Query No. 1, on page 299; but the treacherous type made us say "No," and thus contradict our own writing elsewhere, as well as all authorities on that subject.

Bees as Storm-Warners.—A German, who has studiously watched every movement of the honey-bees, asserts that they are excellent storm-warners. He says that on the approach of thunder-storms, bees, otherwise gentle and harmless, become very irritable, and will at once attack any one, even their usual attendant, approaching their hives. A succession of instances are given in which the barometer and hygrometer foretold a storm, the bees remaining quiet, and no storm occurred; or the instruments gave no intimation of a storm, but the bees for hours before were irritable, and it came.

Beauty Everywhere.—The country all over the North is now beautiful. The trees are loaded with budding fruit; the wheat and grasses are waving in the gentle breezes; Nature's rich, green carpet covers the undulated fields of "the broad prairies" as well as the thousands of hillsides and valleys variegated with yellow and white blossoms. The warbling of the feathered songsters are wafted upon the gentle breezes, and billions of flowers are perfuming the air! The bees are at work gathering the rich nectar that "wells up" in the white clover which is now just springing into bloom. It is several weeks late—but welcome alike to the bees and the apiarists.

Mr. Henry Hooth, a bee-keeper of Marshall County, W. Va., died of typhoid fever. His daughter asks us to state the fact in the BEE JOURNAL, so that his many bee-keeping friends may be informed of his demise. He always said that he should be a life-subscriber to the BEE JOURNAL, and he was.

Hopes Blasted should give courage to battle afresh with the *causes* of disaster, and rise above it. Experience is an expensive instructor, but some of us will learn of no other. One writer says that "the mere lapse of years is not life. Knowledge, truth, love, beauty, goodness, faith, alone can give vitality to the mechanism of existence." We must live and *learn*, and thus we shall *learn to live*. We learn to climb the hill of difficulty—not by looking at disasters in the past, but by keeping a steady aim on the mountains of truth that lie before us.

The Honey Prospects.—Although the weather during the past winter and spring has been very disastrous to many colonies of bees, still there is a redeeming feature—the weather in the Northwest for the past month has been very favorable for honey-production; the many warm rains and intervening sunshine have been very good for vegetation, and promises a large honey crop, if there is no great "set-back." Those who have the colonies "bred up" to full strength will, we think, realize very satisfactory results. At least that seems to be the "indications" now.

The A B C of Carp Culture, a neat pamphlet of about 100 pages, is on our desk. It explains the simplest, cheapest and most effective system of carp culture, and being written by Mr. Milton P. Pierce, of Philadelphia, Pa., Secretary of the American Carp Cultural Association, it cannot fail to be of inestimable value to all interested in the "finny tribes." It is published by Mr. A. I. Root, Medina, Ohio. We will mail it to any address upon the receipt of the price, which is 50 cents.

Bee and Honey Classification.—The thanks of the bee-keepers of the United States are due to Mr. S. C. Boylston, of Charleston, S. C., for his efforts in their behalf to remedy the unjust discrimination of railroad tariffs. Mr. Boylston was appointed the chairman of a committee for that purpose, at the Bee-Keepers' Congress, held at New Orleans last February, and how well he has performed the work assigned to him and his associates, may be learned by his report, published on page 362 of this paper. It will be remembered that the editor of the BEE JOURNAL made an address on the subject, and presented the case to the Congress at New Orleans, and the appointment of that committee was the result. Now, we will have another interview with the freight agents at their next meeting in this city, and endeavor to have all the railroads centering in Chicago make the same classification and rates. Those having influence at the headquarters of railroads in other Cities, are requested to present the claims of bee-keepers to them, and get a copy of the rates and classifications from this office for that purpose. Mr. Boylston's aid in this matter has been very great, as he himself is a railroad official, and we congratulate the bee-keepers of America upon having such an efficient representative apiarist.

Egyptian Bee-Dance.—On June 2, a magnificent ball was given in Paris, France, in a splendidly illuminated and royally decorated hall. The costumes of the ladies and gentlemen were radiant with thousands of diamonds, pearls, rubies, emeralds, etc. The telegraphic report ends thus: "During the banquet an orchestra of 120 performers, concealed behind dense shrubbery, played, and a splendid *corps de ballet*, each *balletine* being in the costume of a bee, danced the Egyptian bee-dance." We know that very often a single bee makes a man *dance*, but what kind of a spectacle girls dressed up like bees would present, we are left to conjecture, as well as what were the peculiarities of the Egyptian bee-dance.

Historical.—A correspondent desires us to give a brief historic statement of the rise of modern bee-culture in America, and we give the following review:

In 1853 the Alps bees were introduced into Germany. Madame de Padua, of Mira, Italy, wrote to the Rev. Dr. Dzierzon, who resided in Lower Silesia, for a model of his bee-hives, and she sent him a colony of the yellow race of bees, which were the first ever seen in that part of Europe.

In 1856, Mr. Samuel Wagner, of York, Pa., attempted to import a few colonies of Italian bees, but they all perished on the voyage. In 1860, Messrs. Wagner and Colvin first succeeded in importing the yellow-banded bees, from Dr. Dzierzon's apiary.

Until then but little thought had been devoted in this country to bee-keeping as an occupation, and still less to it as a science. True, many kept a greater or less number of "gums" or "skeps," and a few, comparatively very few, master minds had conceived rational scientific views regarding many of the internal mysteries of the hive; some had to an extent comprehended the physiological history of the honey-bee, but they were so very few that their wisdom was almost covered with disrepute by the ignorant and superstitious ideas of the masses, who kept bees as did their great-grandfathers, and whose comprehension had only kept pace with their improvements. The master-works of Rev. L. L. Langstroth and the late M. Quinby gave rise to much thought and study, which in turn led to experiments, and these created the necessity for a periodical, in the columns of which new discoveries could be heralded, accepted theories be discussed, old prejudices be combatted, and apiculture be elevated to its proper position among the progressive sciences.

In 1861, the AMERICAN BEE JOURNAL was started by the late Samuel Wagner, and in 1873, it became the property of the present editor. That much progress has been made during the 25 years of the AMERICAN BEE JOURNAL's existence, all will acknowledge. Many doubtful problems have been solved, and new ideas promulgated; all the standard works on apiculture have been revised time and again, as published experiences have proven to the several authors that their books inclined to error, and none but the most conceited have dared to assume that they knew it all.

Now there are nearly 300,000 bee-keepers in the United States and Canada, and the annual product amounts to 100,000,000 of pounds of honey, valued at about fifteen millions of dollars.

QUERIES

WITH

REPLIES by Prominent Apiarists.

Making a Honey-House Rat-Proof.

Query, No. 70.—How should a honey-house be made in order to be rat-proof ?—J. P. M.

Dr. C. C. Miller answers thus: "Make it the same as any building—by having everything built tight. A rat is not likely to gnaw its way in, but once in, it will gnaw its way out."

How do Bee-Larvæ Eat ?

Query, No. 71.—Do bee-larvæ eat the food that the bees put into the cells, or do their bodies absorb it, say from the larva to the pupa state, or, in other words, from the time the egg hatches until the young bee leaves the cell ?—L. H.

Dr. G. L. Tinker remarks: "Their bodies absorb it, or at least the greater part of the liquid food supplied. I have not been able to find pollen-grains in the food. The continual motion of larval bees may facilitate absorption."

Storing and Fumigating Combs.

Query, No. 72.—I have about 1,000 empty combs; how can I protect them from the moth ? and what is the best method of fumigating them ?—J. R. A.

Dr. G. L. Tinker remarks thus: "Place the combs on racks in a close room. Place an iron kettle containing live coals, in the center of the room; sprinkle on sulphur and close up the room door. Only sufficient should be used to kill the worms, which amount will soon be found by test. Too much will cause a deposit of sulphur on the combs."

Dr. C. C. Miller says: "One way in which I have successfully kept combs, is to put them under a strong colony of bees, in such a way that the bees can only go in or out by passing over these combs. My hives having tight bottoms, I put the colony in a super just like the hive, only without a bottom, then fill up the hive with the empty combs and set the colonies on top. Of course this plan can only be used where enough colonies are alive to protect the empty combs."

Enameled-Cloth Covering.

Query, No. 73.—Is it a good plan to use enameled-cloth as a covering over the brood frames in winter ? If bees need water in the summer, why do they not need it in the winter also ? and with the enameled-cloth over the frames, they have water in winter as well as in summer.—B. J.

G. M. Doolittle says: "It looks reasonable as B. J. states it, but I have generally had poor results when I have used it. I much prefer a good quilt or woolen blanket."

James Heddon replies: "I dislike enameled-cloth about a bee-hive. If I want upward absorption, I use cheap burlap; if not, my board-cover. Bees use water when breeding rapidly; but that is something I do not wish them to do during winter."

Prof. A. J. Cook answers thus: "No, nor a board; I prefer a quilt; because in winter they are quiet. The man in the harvest field drinks quarts, while the loafer at the street-corner may not drink a drop (of water). I never wish my bees to have drops of water in their hives."

G. W. Demaree says: "Enameled-cloth for bee-quilts would never have been thought of had it not been for its non-sticking character. This is the only redeeming feature it has. In a changeable climate like that of the Middle States, there is more danger of too much water than not enough."

Dadant & Son say: "No; we remove the cloth and put our straw mat directly on the frames, filling the space above with dry leaves or straw."

W. Z. Hutchinson replies: "I have never used enameled-cloth over the bees in summer, nor in winter. Bees need water in the summer because they are rearing brood."

Dr. G. L. Tinker answers thus: "No, the best plan is to place strips of wood between the top-bars of the frames, as recommended by Rev. M. Mahin, years ago. Bees will get all the water needed, if it is needed, in winter, if the upper part of the brood-chamber is made as tight as propolis can make it. Such conservation of the heat requires large lower ventilation to carry off the moisture, and to prevent restlessness from too much heat."

Dr. C. C. Miller replies thus: "I have used it in winter, and I discover no difference as to results between enameled-cloth and sheeting."

Use of Starters in the Brood Frames.

Query, No. 74.—In the production of comb honey, where a first or prime swarm is hived on comb-foundation starters, say 3 inches in depth, and with sections on top filled with full sheets of foundation, what is the best method of preventing the building of drone-comb in the brood-chamber ?—F. A. G.

W. Z. Hutchinson says: "With me, prime swarms are not inclined to build drone-comb; if they were, I know of no better plan than to use full sheets of foundation."

G. W. Demaree replies: "The best way to suppress drone-comb building, is to keep none but young, prolific queens. The drone-comb usually built by a prime swarm will do but little harm the first season, and can be removed in the following spring, melted into wax, or used for extracting combs. I have practiced this method for years, and it pays me better than high-priced foundation."

G. M. Doolittle says: "Under the circumstances given, I have had little if any drone-comb built, especially if drone-foundation is used in the sections."

Prof. A. J. Cook replies: "Unless I had spare combs I should hive them on foundation in full sheets."

Dadant & Son say: "Use full sheets of foundation. There is no other way that we know of."

Dr. G. L. Tinker says: "All prime swarms should be hived on 6 or 7 frames, and I prefer to have them just half filled with foundation without wires. With this management there will be little drone-comb built, while the greatest possible results in comb honey are secured."

Dr. C. C. Miller remarks thus: "Fill up the rest of the frame with foundation."

James Heddon says: "Increase the width of those 'starters' till they fill the frame; in which case they should be stayed with No. 30 or 36 wire. If you think there is economy in using no more foundation than 'starters,' use a strip not over ¾ of an inch wide, and then if you had a mill specially to make those strips which would make the 3 upper rows of cells drone size, and the next 2 or 3 rows worker size, probably nearly all the rest of the comb would be built with worker cells. When comb foundation can be had at 50 cts. per pound, I will use it in full sheets, until I see my error, which will not be very soon."

Local Convention Directory.

1885. *Time and place of Meeting.*

June 19.—Willamette Valley, at La Fayette, Oreg.
E. J. Hadley, Sec.

July 15.—Central Illinois, at Bloomington, Ills.
Wm. B. Lawrence, Sec.

Dec. 8—10.—Michigan State, at Detroit, Mich.
H. D. Cutting, Sec., Clinton, Mich.

☞ In order to have this table complete, Secretaries are requested to forward full particulara of time and place of future meetings.—Ed.

☞ To create Honey Markets in every village, town and city, wide-awake honey producers should get the Leaflets "Why Eat Honey" (only 50 cents per 100), or else the pamphlets on "Honey as Food and Medicine," and scatter them plentifully, and the result will be a DEMAND for all of their crops at remunerative prices. "Honey as Food and Medicine" are sold at the following prices:

Single copy, 5 cts.; per doz., **40** cts.; per hundred, **$2.50.** Five hundred will be sent postpaid for **$10.00;** or **1,000** for **$15,00.** On orders of **100** or more, we will print, if desired, on the cover-page, "Presented by," etc. (giving the name and address of the bee-keeper who scatters them).

☞ All who intend to be systematic in their work in the apiary, should get a copy of the Apiary Register and commence to use it. The prices are as follows:

For 50 colonies (120 pages).............	$1 00
" 100 colonies (220 pages)......	1 25
" 200 colonies (420 pages).............	1 50

The larger ones can be used for a few colonies, give room for an increase of numbers, and still keep the record all together in one book, and are therefore the most desirable.

CORRESPONDENCE.

Explanatory.—The figures BEFORE the names indicate the number of years that the person has kept bees. Those AFTER, show the number of colonies the writer had in the previous spring and fall, or fall and spring, as the time of the year may require.

This mark ⊙ indicates that the apiarist is located near the centre of the State named: ♂ north of the centre ; ♀ south ; O+ east ; +O west; and this ♂ northeast; ~O northwest; O~ southeast; and ♀ southwest of the centre of the State mentioned.

For the American Bee Journal.

Sour Honey, Larval Bees, etc.

16—G. M. DOOLITTLE, (40—80).

I notice on page 291, that Prof. Cook is surprised at my statement on page 260, that "Honey only swells as it becomes damp," and that the swelling can only be "brought about by either cool, damp weather, or non-circulation of air, or both." He then asks, "What about fermentation?" and answers the question by saying, "Honey in the comb, or when extracted, is almost sure to ferment in a cool, damp atmosphere." Now, I cannot see anything for the Professor to be surprised at, for his statement is almost exactly the same as mine, as I say farther on in my article, "that if the dampness remains, the whole will become a sickening, souring mass," which implies, or at least I supposed it did, fermentation. In any event it is the cool, damp atmosphere that causes the trouble, for if this were not present nothing of the kind would take place.

This is identical with the cold in our wintering troubles. Were the cold not present, there would be no confinement, and pollen, breeding in confinement and honey-dew would play no part in this matter. Had that barrel of honey, which exploded at the BEE JOURNAL office, been placed in a warm room with one head left out, as I recommended, it would never have soured or fermented. What I was after was that cold and dampness tended toward making our honey uninviting and unsalable; while a warm, dry atmosphere tended to put a "gilt edge" on our product.

Prof. Cook and others should bear in mind that I did not have the advantages of a good education, etc., which they did, hence, I am not capable of expressing my views as clearly, and it is only by their being dressed up by our indulgent editor, that they are presentable at all. My articles are only written in the hope that they may benefit my fellow-bee-keepers along the line of practical apiculture, thus helping to lighten their burdens of life, as my burdens have been lightened by the help I have obtained from the writings of others.

POLLEN AND LARVAL BEES.

On page 232, Mr. Rutherford seems to think that I am wholly wrong in my ideas that the larval bee is fed anything which may represent pollen, and says there is quite a difference between my statements found on pages 5 and 134. I had never supposed that pollen was fed "raw" to the larval bee, although, perhaps, page 5 thus expressed it. In this, Prof. Cook fell into the same error of expression in his Manual, as did also some of the others which I quoted as supporting my views in the matter. But these errors of expression do not alter the facts which we are trying to get at when we understand each other. We now understand that the food of the larvæ is chyme, myself and others claiming that such chyme is a composition of pollen, etc. (see what Mr. Heddon says on page 244), while Mr. R. says it is an "animal secretion." Now, I wish to give Mr. R. a "nut to crack" by asking what the substance is which resembles pollen, found in the intestines of the young bee just emerged from the cell? also what was it I found on the glass spoken of in my garden (see page 5)? If the young bee has "no matter to void," as he tells us on page 60, why do they thus void matter? and why do the young drones hatching out of section honey-boxes (as probably nearly every apiarist has seen them), after taking the sections to the honey-room, foul the nice capped honey with their voidings? I am no scientist, but it seems to me if I were, I would not call the statements of any one "imaginary," and then give no explanation of what is seen nearly every day in the apiary. As Prof. Cook, on page 299, endorses Mr. R's article, perhaps he also will tell us what it is that these drones and young bees void. I wish to thank Mr. R. for bringing this matter up, for I trust that thereby all of us will gain new light, on what Mr. Heddon says on page 244, "none of us clearly understand."

BEES UNDER THE SNOW.

On page 219, Mr. Mitchell writes of having good success in wintering bees under the snow, and I see that others recommend the same thing. Here is something I do not understand. I have been obliged to try this plan nearly every winter for the past 12 years with a few colonies, owing to the snow drifting in unexpected places, and I have not had a single colony so covered with snow come out in good condition, while the loss from this cause will average fully ¾ of all so drifted under. If the snow stays on for only a week or so, no harm results from it; but if long continued, the bees get uneasy, thereby getting too warm, melting the snow all around the hive, which results in brood rearing to such an extent that the vitality of the colony is impaired, which results in a weak colony, and generally, death. Mr. W. A. House, a bee-keeper of large experience, living in this county, thinks that the cause is owing to the hives setting close to the ground from which (ground) the snow soon thaws the frost, thereby giving the colony too much heat of a damp nature arising from the earth, which produces the bad effects realized by many in this vicinity. As my bees are both summer and winter, kept within 4 inches of the ground, I wish to ask those who are successful in wintering bees under the snow, how far the hives are from the ground.

Borodino,⊙ N. Y.

The Northeastern Convention.

Continued from page 183.

Upon assembling on Thursday at 7 p. m., President Root in the chair, the first topic presented for discussion was: "The advantages and disadvantages of making colonies queenless to prevent swarming."

Mr. Doolittle said that he had not attempted making colonies for any such purpose, and did not believe in it as far as his locality was concerned. He had taken queens from colonies, and such queens had worked vigorously storing honey, and when the queen was put back, the colony would work vigorously in carrying stored honey into the boxes, and in bringing in new honey from the field. The remarks of Mr. Doolittle seemed to be endorsed by Messrs. Elwood and Betsinger.

Mr. Locke presented a very ingeniously-constructed instrument for measuring the length of a bee's tongue, called the Bee's Tongue Register. He hoped to be able thus to discover the bees having the longest tongues, and from these it would be best to rear future stock, and thus obtain an improved race that would secure honey from the largest range of plants. The instrument was heartily commended and endorsed by the convention.

Mr. King, of New York, presented a sample of a reversible frame, and another sample of such reversible frame was shown by Capt. Hetherington. Mr. H. had tried the experiment of reversing frames to induce the bees to carry up honey from the bottom of the brood-frames into the boxes, but had not been as successful as a Michigan bee-keeper.

Mr. Todd, of Philadelphia, presented an instrument showing that liquid spheres of equal size pressing against each other with equal pressure would produce hexagonal figures of mathematical accuracy, the angles of which will be identical with those in the honey comb: the instrument was examined with great interest, as it seems to show that the bees in the manufacture of comb only follow a great law of nature.

Mr. Clark presented a report of the committee on the constitution and by-laws, and the following amendments were adopted:

Art. 1. This association shall be known as the New York State Bee-Keepers' Association founded by Moses Quinby in 1868.

Art. 2. Each county or district convention hereafter held in any part of this State, shall be entitled to three delegates to the State Society.

Art. 4. The officers of this association shall consist of a President, Vice-President, Secretary and Treasurer, who shall constitute the executive committee, and whose duties shall be those usually assigned to such officers, and their term of office shall be one year, or until their successors shall be elected. An honorary Vice-President shall also be appointed from each county of this State.

The by laws were unchanged with the exception of the following:

Art. 5. The Secretary shall receive $10 each year for his services, and he shall have power to choose an assistant secretary if he wishes.

Art. 6. The regular meetings shall be held alternately at Rochester, Albany, Utica and Syracuse, but shall be held no two years in succession at the same place.

FRIDAY MORNING SESSION.

Secretary Benedict then read an essay on the "Best management of the apiary for comb honey:"

Mr. King believed that removing the honey as fast as capped, and replacing the sections with those that are but partially filled, is the proper way to secure the largest amount of surplus honey.

This system did not discourage the bees, but was in exact accordance with the nature of the little insect.

Mr. Locke spoke in favor of the system, and said it was that practiced by the ancient Germans who kept at times a thousand colonies.

The committee on circulars and pamphlets reported through Mr. Locke, and on motion the committee was continued another year.

The Secretary read an article by Mr. Tefft on the "Reversible Frame." The article declared the invention a great improvement over the old hanging frame, and adopted by the most intelligent apiarists. The article also referred to the objects to be gained by the use of this style of frame.

Messrs. King, Betsinger, Root, Clark, Locke, Benedict, Doolittle and others, took part in the discussion, and it was generally admitted that at certain times in the season, and with judicious management, the reversible frame would prove a success. Some of the objections offered were that if care were not taken, poor honey would be carried into the surplus boxes, thus injuring the quality of the honey stored there, and that inexperienced bee-keepers would, unless careful, reverse the frames too late in the fall.

Some changes were made in the committees, when the question and answer box was opened and answers made to the conundrums therein contained.

On motion of Mr. Clarke, the executive committee was given power to name delegates and issue credentials to those wishing to attend the International Convention at New Orleans. On motion, all persons wishing to attend the North American Bee-Keepers' Convention at Detroit, next fall, will receive credentials from the executive committee.

On motion of Mr. Clark, any person in the State may become a member of the Association by signing the constitution and paying 50 cents. Any clause in the constitution which conflicts with this was rescinded.

FRIDAY AFTERNOON SESSION.

After the convention was opened, Mr. Doolittle, on behalf of the committee, composed of Messrs. Doolittle, Todd and Locke, offered the following resolutions:

Resolved, That a vote of thanks be hereby tendered to all the essay writers.

Resolved, That the thanks of this Association are due and are hereby tendered the representatives of the *Journal*, *Evening Herald*, *Morning Standard*, and the *Courier*, for their extended notices of this convention, the publication of our proceedings, and other courtesies shown us.

Resolved, That the Association do hereby tender a vote of thanks to our worthy President, Mr. L. C. Root, for the dignified and able manner in which he has presided over our meetings.

Resolved, That a vote of thanks are hereby tendered to the mayor and common council of the city of Syracase for the use of the City Hall.

Resolved, That this Association are pleased to note the presence of a number of ladies during the sessions, and trust that they will, at our next convention, favor us with their presence.

Resolved, That this convention extend a vote of thanks to Mr. Arthur Todd, Philadelphia, for the interesting microscopic and scientific experiments given for the benefit of this convention.

Resolved, That a vote of thanks be extended to Silas M. Locke, Salem, Mass., for the scientific registration of the length of bees' tongues as connected with scientific queen-rearing.

Resolved, That a vote of thanks be extended to our retiring secretary for the efficient manner in which he has performed the arduous duties devolving upon him.

Resolved, That we as a convention do urge upon our members to attend the meeting of the North American Bee-Keepers' Society, at Detroit, next fall, and that all members so attending shall hereby be vested with the attributes of delegates.

The report of the committee on questions was made by Mr. King as follows:

1. What is the best food for winter? *Ans.*—Granulated sugar.

2. How many colonies of bees can be kept in one apiary? *Ans.*—That depends on forage—from 20 to 2,000.

3. Which is better for beginners, natural or artificial swarming? *Ans.*—Natural.

4. How shall we prevent honey from candying? *Ans.*—Keep it at a temperature of not less than 75°.

5. When the bees hang out, is it best to put on more boxes? *Ans.*—Only when honey is plentiful outside.

6. How to prevent swarming when producing comb honey? *Ans.*—Keep the bees at work.

7. Why are porous cloth covers for winter use any better than enameled cloth? *Ans.*—Because they permit the escape of moisture.

8. Why not use fine wire-cloth strung across the section frame instead of tin or wooden separators? *Ans.*—Wire is too flexible.

9. Does pollen cause the bee-diarrhea? *Ans.*—Yes and no.

10. What material is best to gum labels for glass or tin? *Ans.*—Dextrine and hot water.

11. Is dividing preferable to natural swarming? *Ans.*—Yes, decidedly.

12. Why is chaff packing better than dead air-space? *Ans.*—Because it is warmer.

13. Why are deep frames better for use in securing comb honey than shallow ones? *Ans.* Because they are better adapted to the collateral system.

14. Why are shallow frames better for use in securing comb honey than deep ones? *Ans.*—Because brood will be necessarily closer to the sections.

The following resolution was read by Mr. Locke and adopted:

This Association having heard with great sorrow of the death, during the past month, of Mr. W. W. Cary, of Coleraine, Mass., desires to put on record its high appreciation of his services. A progressive bee-keeper of one-half a century's experience, among the very first to import and breed the Italian bee, and zealous for its purity—enthusiastic in every advance in the direction, both of economy and manipulation of the honey-bee, he took a high rank among those who have helped both by practice and pen to elevate and perpetuate the science of apiculture.

With these considerations we do resolve that as a mark of our appreciation of his services this minute be entered upon the records of the Association, and a copy sent by the Secretary to the family of Mr. Cary.

Resolved, That we extend our sympathy to the afflicted family, and commend them in their grief to the God of all consolation, and the very "present help in trouble."

The report of the committee on implements on exhibition was read.

On motion of Mr. Todd, local associations were recommended to purchase the Cheshire chart for beginners. On motion, the convention adjourned *sine die*.

* * *

For the American Bee Journal.

Cause of Loss in Winter.

JAMES HEDDON.

The above must be a subject of interest in every respect to many bee-keepers. All will recollect how, in my article on page 213, written about April 1, I spoke of the 73 colonies entirely pollenless, that passed the winter in the new, damp cellar. I put these bees out for a flight on April 19, after a confinement of 151 days, and though their hives were white, and I was in my white shirt sleeves, not one speck of discharge could be found or seen coming from any bee, though the air was dark with their flight, as the day was a very warm one. Their bodies were as slim as in fall, and they discharged not even water, unless they went far out of the apiary to do so. I experimented upon one colony in this cellar, by going to it almost daily for about three weeks, and stirring it up into excitement, and every time we approached it, it was as quiet as any colony, and when put out they cast no spot.

I notice that Mr. Ira Barber (another successful bee-winterer), on page 316, thinks that a damp room is best for bees, if it is warm enough. He undoubtedly speaks from experience, and I think he is, perhaps, correct; but I have known bees to winter most perfectly on sugar syrup, in a very dry sawdust house. I have also known them to have the disease very badly in a cellar whose temperature never was below 42°. This was in both instances my personal experience, and I am certain whereof I speak. Many others can, with their experience, confirm my own, and these facts one can no more afford to ignore than I can afford to ignore the very interesting and important experiences of Messrs. Barber, Train, Boomhower, and the many others whose statements help us to get at the true inwardness of this great problem.

Mr. Barber may fix his cellar as he chooses, and if he will let me fill his honey with floating pollen, his bees will rapidly accumulate feces. Pollen is almost wholly nitrogen, and so is feces. Nitrogenous food will load the intestines of the bees every time, and no conditions can avoid it; as I before have said, we need not fear bee-bread as long as the temperature is kept high enough, for without a waste of tissue, bees will not need nitrogen, nor will they touch it; but when nitrogen is in the honey, they consume it of necessity.

Mr. Barber speaks of dry feces as though he thought it might be possible that if all outside conditions were right, accumulations could be continually voided in a dry state, in the cluster and in the hive. Prof. Cook tells us that his experiments upon this point have satisfied him that bees never normally void at all in their hives. I think he is correct. A few times I have seen bees void feces that was solid enough to hold a round form, and stretch out from ¼ to ½ inch in length. If this discharge were left in a dry air for a short time, it would become dry feces; but this never happens except in the last stages of the disease, bee-diarrhea, after the bees have held their feces until they are sick. Prof. Cook has lately microscopically and chemically analyzed supposed dry feces received from Mr. W. F. Clarke and Mr. S. Corneil, and found it to be wax and pollen, wood, paint, and other chewings. When we take into consideration the natural home and surroundings of the honey-bee, we at once suspect the error of the dry-feces theory. I am wondering how the preferable damp cellar can aid dry discharges.

According to the pollen theory, breeding in confinement should tend to promote diarrhea if the temperature is too low, but if not too low, it would not so tend. This is what we also find to be the facts. On what basis, except the pollen theory, can we account for the superiority of sugar syrup (long ago admitted) when used in any system of wintering? Who, by any method of wintering, can show 151 days' confinement (five months) and *no* discharge at all where sugar syrup is not used? My many colonies that actually froze, died upon their stores, with their proboscides in their syrup. Had these colonies had honey and bee-bread for stores, they would, no doubt, have had diarrhea just before they died, and we should have thought that was the only cause of death.

I am sure that starvation is not the cause of diarrhea. I have seen many cases of either entirely absented from the other. I think that Mr. Goos is entirely mistaken. I have wintered bees successfully on boneset and other fall honey, and, in fact, on all kinds of honey that we have here in quantity.

Dr. Southard, of Kalamazoo, Mich., is the only man I know of who wintered *all* of his bees packed out-doors. To several colonies he fed clear honey-dew, and all of his colonies had no upward ventilation or absorbents of any sort—solid wood above and all around, if I understand Hon. A. B. Cheney correctly, who visited us both about two weeks ago. No, it is neither honey-dew nor dampness. His colonies, having honey-dew, came out in good condition. When the liquid stores are free from nitrogen (floating pollen), as was the case last season in most localities, it is only a question of temperature Dr. Southard's bees were much better protected, as he writes me, than others that died. When bees sicken with diarrhea in warm quarters, it is a question of nitrogenous food. This is my idea. It also seems to be the idea of Messrs. Hutchinson, Mason, Howard, Willis, and others. Cold may kill bees; but pollen in some form is the prime cause of bee-diarrhea, and a careful analysis of the excreta will always show the truth of my statement, I think.

Mr. Doolittle thinks that if the pollen theory is true, a knowledge of it is of no practical benefit. We do not understand it at all alike. I feel *sure* that my knowledge of it insures me against any further winter losses. Last winter I lost at least $1,500 worth of bees. I am only hilarious over my late experience, because I feel so confident of the greater future gain in my being able to register my name among the ones who always winter bees successfully. But this is not all. How much can I do for others?

On page 316, Mr. Barber speaks of some who write much, but never winter bees successfully. Now, in all candor, I ask if they who loose bees most, are not most apt to find out the cause of such loss? Does not necessity and superior advantages tend to stimulate investigation? Have the successful ones known *why* they were successful? If so, why did they not tell us all about how to meet with the same success? If they have told us, why have we not succeeded? Why have such intelligent and practical bee-keepers as Mr. Hutchinson and Mr. Oatman failed to succeed? Is it not true that there was all the time a factor in these losses that the successful ones did not understand, because it was not one of their environments? I do not think I am any brighter than others, but I am sure that I see clear enough to not only wander out of the darkness, but lead out my companions. The future will decide it, and I am willing to stake my reputation as a bee-keeper upon the results. I am not looking back, nor wasting any time "crying over spilled milk." I am starting with about 200 colonies, and in the near autumn, I am going to have as large a honey crop as the season will admit of, and more colonies than before, and then winter them all.

Dowagiac, ♀ Mich.

Read at the Northeastern Convention.

Best Management for Comb Honey.

FRANK C. BENEDICT.

The question that has been assigned me, if I shall speak upon it, in the full meaning of the topic as it is given in our programme, I shall have to assume myself as having a better method than any of our honored leaders in bee-culture. And when I think of such men as the lamented Quinby, Rev. L. L. Langstroth. Capt. Hetherington, Messrs. Elwood, Doolittle, Heddon, Betsinger, and many others, it little becomes me to assume that I can give to bee-keepers "the best management of the apiary for comb honey!" I hardly think when the committee gave me the question, they took into consideration the varied climate and the different sources from which we procure our surplus honey; that the management in one section of the country would not bring like results in another of a different surplus source. So I shall confine what I have to offer, to a section in a latitude where clover and basswood are the principal sources of surplus.

We shall have to start in early spring, perhaps, before the first natural pollen is gathered, when we are letting our bees work upon rye or Graham flour, as this should be given to supply until natural pollen comes. Now, when natural pollen appears, or better, before, on some warm pleasant day, look over each colony and see that they have a good queen and plenty of honey, and cover them with enameled cloth or some material that will keep in the heat and moisture. In about ten days look them over again, and you will find colonies that cannot cover eight frames, or the full number, to good advantage. Contract these by using the division-board until they have no more frames that they can cover well. Be sure each time to leave plenty of honey, uncapping a portion that the bees may move it about in the combs; this will have a stimulative effect, and cause the queen to lay more rapidly. Some may ask, why contract the brood-chamber? For the reason that one of the great requirements of prolific brood-rearing is heat, and if the store is not large enough to warm the room, then contract the room to the size of the store.

Now let them rest about ten days more, and by this time the young bees in the hive will begin to be quite numerous, and if you find the queen is using all the room, add one frame to the brood-nest. But this time make haste slowly, as you are liable to sudden changes, and you have many old bees that have nearly done their work, whose places will soon be filled by young bees. Now begin to feed and stimulate to brood-rearing as you have a good quantity of young bees to care for the larvæ and general work of the hive. This feeding may be done in the hive from a top feeder, or from a feeder placed at the entrance, or anyway that you can easiest feed them a little every day; three or four tablespoonfuls is a plenty, unless they are very short of stores.

At this season of the year they use a large quantity of water in preparing the food for the brood, and if you will supply it by feeding one part of sugar or honey to three of water, it will save thousands of workers that would go out on unfavorable days in search of water, and never return. You are now not far from the first of May. Push them as fast as possible, as you only have about fifty days to white clover bloom. No one need have any fear of getting their colonies too populous at this time, and in this latitude with our short spring-time. During the fifty days to come, look to each colony weekly, add combs by spreading brood and placing an empty comb in the centre, keeping a record of every colony.

Up to this, I have not said anything about hives. Good results may be obtained with nearly all of the movable-frame hives. I think, when we get to the honey season, a rightly arranged top-storing hive is preferable. But during spring management a hive, in which you can extend the brood-nest, is of great advantage. A strong colony will use more than eight frames and be crowded, before the honey harvest begins. Now, if your hive is such that you can add extra frames, they will be quickly filled with brood. Some would say draw a frame of brood and give to a weaker colony, and replace it with an empty frame. This may be done, but experience has taught that, as a rule, better results can be obtained by letting the brood remain in the strong colonies until about the time to put on surplus storage; then draw the extra frames, taking the oldest brood and give to the lighter colonies, if any still remain. By this time, they are ready to take care of it, and it comes when it will do them much more good than it would earlier. If fortunate enough to have colonies on full frames, these extra combs with a few bees will make some fine early nuclei, that will build themselves into good colonies if given a young queen or a queen-cell. It is better to have a few young queens to give them, as you will want them when the swarming season comes.

Now we come to the honey season. We are all ready with sections filled with light foundation, not less than ten square feet to the pound, placed on racks with separators clamped between. Go to the yard, and as you pass through, lift up the quilts, and if you find that they are whitening the tops of the combs, they are storing new honey, and should be given the sections at once. I think I am safe when I say, there is no way in which the sections can be given, that has the advantage of the rack, or clamping case, worked upon the tiering-up system. When nicely started raise them up and place another set under. Continue this until well in basswood time; then be careful not to get more started than the bees will finish on white honey.

Some, of course, are prepared to take issue with me, who are joined to their idol, the wide frame, which, if for no other reason than the saving of time, should have been laid aside long since, and any hive that will not admit of taking the top off to a level with the tops of the brood combs, should be placed with them and be kept as relics.

Now our dish is ready to catch the shower of honey. But just here comes the cry that the bees are swarming just as they had one set of sections about ready to raise. What shall we do? I would say, with all strong swarms that issue up to within one week of the opening of basswood bloom, remove the old hive to a new stand; place the new hive upon the old stand, filled with one empty comb, and seven frames of wired foundation, with the set of partly filled sections from the old hive placed in position on the new one. Now hive the swarm, and they are ready for business; as you have all the working force of the old hive, you will seldom have any trouble with the new colony swarming again. But now what is the condition of the old one? You will find eight frames of brood in all stages, and young bees enough to care for the eggs and larvæ, and hundreds more hatching every day. Let them stand six or seven days; then open the hive and cut all queen-cells, saving the best to be placed in the nuclei from which you are to take a laying queen and place in the old hive, and you have a colony that will often fill one and two sets of sections during the basswood flow. After much experimenting, I find this allows the bees a chance to be true to nature, and still we practically control the swarming.

Now, we are within a few days of the basswood bloom, and we must make everything count. Hive the swarm on the old stand as before, but do not carry the old hive to a new stand, but place it beside the new one with entrance at right angles. Let this stand eight days. Towards night of the eighth day, open the old hive and you will find that you have a fair colony of bees. Have the comb-box ready, remove the combs, shake the bees at the entrance of the new hive, place the combs in the box, shake some of the bees from the old hive and remove to a new stand, and place the combs in the hive, cutting out all queen-cells but one; or all, if you have a young queen that you can give them. Now the young bees and what are yet to hatch will take care of the work in the hive, and with care will be in trim to take the last of basswood and store dark honey enough to winter upon.

From the first swarms you will get more honey than you would had you tried to keep them in one hive by hiving and returning them, and trying to suppress the swarming impulse. Second, you get the greater part of the worker bees when they will do the most good—during the honey-flow.

With the above management you have doubled the number of colonies that have cast a swarm. Now, brother bee-keepers, what I have said comes from practical experience, and if any one has gained a new thought, then I have accomplished all that I hoped for.

Allow me to discard the subject as given, and ask you to accept this as one of the best managements of the apiary for comb honey.

Perry Centre, +o N. Y.

☞ The Willamette Valley Bee-Keepers' Association will hold its second meeting at La Fayette, Oregon, on the third Tuesday in June, 1885. All who are interested are invited to attend. E. J. HADLEY, *Sec.*

For the American Bee Journal.

My Report of Two Colonies.

WM. F. CLARKE.

In my article on "Ventilation and Temperature," which appeared on page 326, I gave a somewhat premature and erroneous account of my experiment with vertical ventilation, which I ought to have supplemented by a fuller statement of the facts before now. But as I thought that article would certainly appear before I could correct the part of it referring to my 2 colonies, I kept delaying, and now I am sorry I was not more prompt, because I fear that some of my fellow-contributors may commit themselves to criticisms not in harmony with the facts of the case. However, I cannot blame any one but myself.

Of my 2 colonies, I said: "One of them succumbed to the last cold spell in March, the other is alive, but in a bad condition with diarrhea, and will, no doubt, 'spring dwindle' to nothing." I added that "in my anxiety to give plenty of ventilation, and not counting on so severe a winter, I overdid the air-supply." This was written on April 8, before there had been any weather here admitting of opening out a bee-hive in the open-air. The first genial day we had was April 19, but it was Sunday, and I confess that I just ached to stretch the fourth commandment a little, so as to examine my living colony. However, I managed to wait until Monday, and then got a genuine and pleasant surprise. My bees, which I expected to find in a weak, diseased condition at the point of extinction with diarrhea, were in splendid order. I never wintered a colony that came through so satisfactorily. The combs were clean and bright with not a foul speck on them; there was brood in all stages, and many young bees were already hatched out. I closed the hive and betook myself to reflection. One of my first thoughts was to look over the hive of the defunct colony, when I had another surprise. The bees had died, not of diarrhea, but of starvation. That cold spell toward the last of March had caught them on the opposite side of the hive from their remaining stores. Only one frame of honey was left, and that the outside one. They were benumbed and paralyzed so that they could not get across to it.

Up to the end of March I had watched my bees with a most perplexing result. When I looked into the hibernating box-stand, I saw but a very few dead bees, and there were the ridges of dry powder which I have long regarded as winter feces. Judging by these indications, I should have pronounced the bees "all right;" but on the only two occasions that I saw them fly during the winter, all the bees that came outside seemed afflicted with diarrhea. This was the case with both colonies. Very few bees, however, took flight—not more, perhaps, than a couple of dozen or so from each hive; these fell on the snow, died there, and left in every case a large foul circle around their dead bodies. So few came out, and these invariably diseased, that I naturally came to the conclusion that the living colony was in a hopeless condition, and would soon be finished by spring dwindling.

Reflection has led me to some new views about wintering bees, which I will proceed to state as briefly and simply as possible: I have come to the conclusion that it is the aged bees that get the diarrhea, and when they cannot follow their instinct, and go outside the hive to die, they necessarily die in-doors. This befouls the hive, and results in an unwholesome state of things, which cannot but injuriously affect the entire colony. If this be so, it forms a strong objection to cellars and bee-houses, which keep the bees closely confined in darkness, preventing the old bees going outside of the hive to die.

I have positive evidence that the great bulk of my bees never saw the outside of their hives for five months. What, then, becomes of the objection to out-door wintering based on the danger of bees flying in unsuitable weather and being lost? They have sense enough not to go out in extreme cold weather, just as they have sense enough not to eat pollen when it is not necessary or beneficial for them to do so.

I still believe that I overdid the matter of ventilation in the case of both my hives, although I think even the defunct colony might have survived if the bees could have gotten at their stores. But the colony that did so well had only half the ventilation given the one that succumbed. Another winter I shall give less air than I did to the one that survived. As I stated in my last article, I agree with Mr. Heddon that bees require but little air in winter; but I would lay it down as most important, that what they get must be pure, uniform, and absolutely unfailing. The less air they have, the quicker they will smother, if at any time the supply is exhausted.

Here is revealed, at least to my mind, the mistake of those who winter bees in chaff hives on the summer stands, and depend for ventilation on the summer-passages. These are usually more or less contracted, and easily closed by ice, frozen snow, or dead bees. Cyula Linswik and her sister succeed on this plan because they make a point, one or the other of them, of going through the apiary every day and seeing that the passages are open. This involves a large amount of trouble, which can very easily be avoided. I now believe that if hives are raised a little from their stands, and have an inch auger-hole in each bottom-board, the ventilation will be all-sufficient; and I think it is important to have it vertical instead of horizontal, because it conforms to that law in nature by virtue of which perfect ventilation takes place on the principle of an endless-chain air-current. I am further satisfied that vertical ventilation is the true method of discharging damp air, which naturally settles with the heavier gases to the bottom. I still see an advantage about my hopper-plan, because it allows dead bees and powdery excretions to fall, and gives an idex to the actual condition of the colony, so far as these signs can do it. If I had a large apiary I would certainly have some hives with the hopper attachment underneath, so that from the condition of these I could judge of the rest.

I have referred to the dry powdery ridges as one indication of good wintering. It is yet an open question what this dry powder is. I have supposed it to be the winter excrement of bees. Prof. Cook denies this, and proclaims it completely disproved, because, on dissection, no dry feces have been found in the intestines of bees. But, has what I would call a hibernating bee ever been dissected? A hibernating bee remains in the hive, snugly esconced, until the winter is over and past; then the hibernating condition ceases, and with it the evacuation of dry feces. If, as I showed in my last, this dry powder is not excrement, it is waste matter dropped when the bees are feeding in winter, and as it consists largely of pollen, it proves that bees instinctively reject that article of diet when it is not good for them. "Let me put it on record," as Mr. Heddon is fond of saying, that my bees deposited this dry powder all the time they were wintering well, and that there was not a speck of diarrhea or filth in either hive. The hive of the colony that came through in such perfect condition, had, perhaps, a tablespoonful of dead bees and several tablespoonfuls of dry powder as their winter debris.

Let me add that my good colony has not "spring dwindled" a bit. It has gone on from strength to strength, gives tokens of early swarming, and is A No. 1 in all respects. "One swallow does not make a summer," but "ab uno disco omnes," (From one, learn all), is a proverb not to be despised.

Speedside, Ont.

For the American Bee Journal.

Central Michigan Convention.

The spring meeting of this Association was held at Lansing, on May 12, with quite light attendance, owing to the unusual lateness of the season, and the fact that everybody was in haste to begin spring work. The members present reported 198 colonies wintered, of which 126 were alive in the spring.

The first topic discussed was, "How can we prevent robbing?" Mr. Brown said if a colony was weak and without a queen, he preferred it should be robbed, as the bees would go with the robbers and strengthen the colony. Robbing is most common in autumn. A bee-tent used at that season of the year will entirely do away with it, and also prevent stinging. The tent should be 6 feet in length, 6 feet high, and 4 feet wide, with wire gauze on the sides and cloth above and at the ends.

In reference to the use of a drone-catcher, Mr. Brown said he puts in comb that has no drone-cells, and thus prevents the rearing of drones. He had adopted the plan of wintering his bees by burying them in the ground. He had not lost a colony, despite the severity of the past winter.

The question of wintering was discussed with animation. Prof. Cook reported success in cellar wintering; he allowed each colony about 20 lbs. of honey. Mice had caused considerable damage the past winter.

Mr. John Lee put 33 colonies into winter quarters in the cellar, and found 29 alive.

Mr. Ashworth had put up 14 colonies in large dry-goods boxes, two or three hives in a box, making a bridge to give them access to the entrance, and filling the space in the boxes with sawdust. All came out in good condition.

The election of officers resulted as follows: President, J. Ashworth, Lansing; Vice-Presidents, John Lee, Eaton county; Stephen Perry, Ionia county, A. B. Gregory, Clinton county; A. Curtis, Shiawassee county; Secretary, E. N. Wood, Lansing; Treasurer, Norman Goodnoe, Lansing.

The next meeting will be held at Lansing on the second Thursday in November.

For the American Bee Journal.

Bees in the Cluster, Hibernation, etc.

E. B. SOUTHWICK.

Query, No. 68, involves a statement made by me a short time since, and also about two years ago, at which time I gave my reasons, and consequently did not think it worth while to repeat them; but I will give a few now. I find the bees on the outside of the cluster, when very cold, quite stupid for some distance into the cluster, thus showing their inability to take honey from those inside, and feed the outside ones; and the perfect inability of those outside eating, if food were handed to them. But the bees on the inside are warm and active, and when they get filled with honey, they will be more than naturally warm, and, of course, seek a cooler location, and consequently take their place on the outside. This feeding part of the bees by the other part, would show a continued work of some and continued idleness of the rest, which is not natural with the bees.

Mr. W. F. Clarke thinks that my statement, that "bees do not hibernate," is no argument. Well, if he had dismounted, and carefully read before and after that statement, he would have seen what every observing bee-keeper must see—the truth of the statement. Had I filled a page of the BEE JOURNAL about it, and hid the idea in a multiplicity of words, it would have been considered argument.

Another correspondent, on page 123, asks "How does he know?" and says that when we are looking for facts we want what a man knows, not what he thinks. Now, I will suggest that all bee-keepers write what they really know about bees, and not what they believe or think.

Mr. Hutchinson says that bees never have the diarrhea without confinement. I once made a number of new colonies and heedlessly neglected to give all of them honey. In a few days I noticed that some of the hives were being spotted around the entrances. I examined the colonies and found them entirely out of honey. I gave them a supply, and all went on right again. No confinement there.

Sherman, Mich.

For the American Bee Journal.

Is the Pollen Theory Proven True?

S. A. SHUCK.

It appears that the opponents of the "pollen theory" have almost entirely ceased to oppose it. The question now arises, have the theorists established their claims, so their "theory" becomes a fact? Or, have the opponents been so successfully out-generaled in argument that they have failed for want of sufficient facts, to sustain their position? In either case the theorists have the victory.

It is doubtless a late and unhopeful hour for any one to attempt to oppose the "pollen theory," but "never too late to do good." If I understand the theory correctly, it stands now upon these two principles: 1. The fecal discharges of diarrhetic bees always contains pollen. 2. Bees fed exclusively on a sugar diet never have diarrhea.

I wish to ask why the cause of diarrhea has not been attributed to the watery element, which is always present in the discharge of diarrhetic bees instead of pollen? Bees do not collect and store water in their combs for winter use, yet this watery nature of the discharges of diarrhetic bees, is the very element that determines whether or not they have the diarrhea. If bees spot their hives and combs, they have the diarrhea; if they do not spot their hives or combs they have no diarrhea, is the universal verdict.

When an apiarist has taken every particle of honey and pollen from the hive, and placed in its stead pure sugar syrup, can he with any degree of consistency or good common-sense, expect his hives or combs to be discolored? If his bees should die with the diarrhea, how should he be able to determine the fact, when there could be nothing but sugar syrup (thick or thin) upon which he could base his conclusions? To assume that the discovery of a preventive of bee-diarrhea (as those who are using sugar for winter food are wont to do), proves the pollen theory, is assuming too much, as in this case it may be seen that the cause may be removed without ascertaining just what it is.

I have produced diarrhetic symptoms in bees so often during the summer months that I am surprised that the "pollen theory" should have ever gained so much of a hold in the minds of so many scientific apiarists. Give me bees that will partake of diluted honey or sugar syrup, and a temperature below 60°, and I feel confident that I can produce diarrhetic symptoms in less than three hours at any time of the year. After these symptoms have been produced, all that is necessary to create an aggravated case of the disease, is to confine the bees a few hours, or at most a few days, without a flight.

If the advocates of the "pollen theory" can explain how or why pollen can cause diarrhea in a few hours, I shall be glad to have them do so; and in turn, I will endeavor to tell how diarrhea can be produced by the handling of the bees.

Liverpool, Ills.

For the American Bee Journal.

Railroad Classification and Rates.

S. C. BOYLSTON.

In compliance with the instructions received from the late Bee-Keepers' Congress at New Orleans, and in accordance with promises made by me at that time, I went to Atlanta, Ga., and on May 27, 1885, appeared before the Rate Committee of the Southern Railway and Steamship Association, and advocated the cause of the bee-keepers of America.

The Rate Committee is composed of the following:

Virgil Powers, Gen'l. Commissioner, Atlanta, Ga.

Sol. Haas, Traffic Manager, Associated Rys. Va. & the Carolinas, Richmond, Va.

E. R. Dorsey, G. F. A., Ga. R. R. Co., Augusta, Ga.

W. H. Stanford, G. F. A., Old Dominion S. S. Co., New York, N. Y.

J. R. Ogden, G. F. A., E. T. V. & G. R. R., Knoxville, Tenn.

Geo. R. Knox, G. F. A., N. & C. R. R., Nashville, Tenn.

H. Collbran, G. F. A., C. N. O. & T. P. R. R. (Cin. So.) Cincinnati, O.

S. B. Pickens, G. F. A., So. Ca. R. R., Charleston, S. C.

Jas. L. Taylor, G. F. A., S. F. & W. R. R., Savannah, Ga.

G. A. Whitehead, G. F. A., Central R. R. of Ga., Savannah, Ga.

J. M. Culp, G. F. A., L. & N. R. R., Louisville, Ky.

The freight rates and classifications prepared by this committee extend over the entire section of country south of the Ohio and east of the Mississippi rivers, with very few trifling exceptions; and also, by steamships through all the Southern ports to New York and the principal cities in New England. Also from Chicago, Peoria, Pekin and Havana of Illinois, and St. Louis, East St. Louis, Cincinnati, Jeffersonville, Louisville, Evansville, and the other Ohio and Mississippi river points, to the principal cities of the South; from which local rates obtain, but the supplies will hereafter be quoted on a uniform classification, and the rates may be named from all your principal points to anywhere in the South from the Potomac and the Ohio to the Gulf. Texas and trans-Mississippi points are not included. Rates from the Ohio to points east, north and west, are also not included.

The Committee granted all I asked, after some hesitation and argument; and here is the classification:

Bees in hives (carrier's risk), twice 1st class; (owner's risk), 1st class.

Bee-hives, empty (set up), 1st class.

Bee-hives, knocked down (crated). A class.

Bee-hives, knocked down (car load), 5c. per 100 less than class A.

Bee-smokers, boxed, 1st class.

Honey in barrels or kegs (carrier's risk), 5th class; owner's risk, 6th class.

Honey in glass or tin, boxed (carrier's risk), 1st class; owner's risk, 3d class.

Honey in comb, boxed (carrier's risk), 1st class; owner's risk, 3d class.

Honey extractors, crated (carrier's risk), 1st class.

Honey section-boxes and frames in crates and boxes, 3d class; owner's risk, 4th class.

Wax-extractors, crated or boxed, 1st class.

Wax comb-foundation, 2d class.

Now, I may not have named all that is desired, but I send a copy of the last classification and rate sheet published, and our products and supplies will appear in the next publication of classifications, and these rates will apply. For instance: Chicago to Charleston, 1st class is $1.45 per 100 pounds, and 6th class is 59 cents. If any will intimate wherein I have not got the rates low enough to justify their ideas, or those of our fellow-bee-keepers, I will try farther.

Let the bee-keepers take these classifications (when I get them I will send 50 for the purpose to the Editor of the BEE JOURNAL, from whom they may be had upon application), and apply to the railroad authorities at their nearest Head-Quarters, not to the Station Agent, and do not ask to have their products put in the same classes as I have them, but show to these gentlemen that the Southern Roads have classified honey and syrup at equal rates; bee-hives as empty boxes; bee-hives, knocked down, same as box and barrel material in shooks; section-boxes the same as wooden butter-plates; and then they will have it on the same platform as I have proposed and obtained from the railway authorities here.

Our tin cans, glass bottles, and other supplies are already classified. I have possibly omitted something, but I do not think that I have. If I have not done exactly what I promised, let me know wherein I have failed, and I will try once more.

Charleston, S. C.

For the American Bee Journal.

The Swarming Problem.

H. W. FUNK.

I notice that the swarming problem is again receiving the attention that it deserves, but among all the given valuable methods of preventing or controlling swarming, I find none that can be depended on to a certainty. Where extracted honey is produced with the liberal use of an extractor, or plenty of comb and foundation, it is comparatively an easy matter to get along; but where comb honey of first quality is desired, it takes considerable judgment to know what is the best thing to do. Bees seem to be possessed of but one idea at a time. Most bee-keepers have observed that those colonies worked for comb honey, that do not swarm, store more and of finer quality than those that do swarm, especially if the flow of honey does not last long.

A few years ago I worked about 50 colonies for comb honey, and most of them were very strong. As I did not desire any increase, I gave room, as I thought it necessary to prevent swarming until they had from 30 to 36 two-pound sections. By the time they were just ready to cap over the first ones, the swarming mania struck them. I worked in various ways to keep them within bounds, but all methods failed; finally I was successful with the following:

I would cage the queen and let the swarm settle on a swarming-box, and while they were settling, I would open the old hive and destroy all queen-cells. After they had clustered, I brought them back, sprinkled them a little with water, so that they would not fly, and shook them in front of the old hive and marched them in—all except about a pint of bees and the queen, which I put on a few frames of comb or foundation and put in a new location. If the queen was worthless, I destroyed her and returned all the bees. In 6 days I opened the hive and destroyed all queen-cells, and gave them a frame of eggs from one of the old queens in the nucleus. In 6 or 7 days this was repeated, and so on until the swarming season was over, then I would return their queen, or else give them a young one. I almost always introduced them by tying two or three thicknesses of newspaper over the mouth of a small cage, and sticking it fast between the end-bars of the frames. This, by the way, is as nice a method of introducing as any I ever tried; it saves the trouble of opening a hive to release a queen or to remove the cage.

The small nuclei were used either to rear queens or else united, or built up to full colonies before the season was over. I had my doubts about bees working as well while they were queenless, but I could see no difference: in fact they worked for all they were worth. I also was afraid that the brood-chamber would be filled full of honey, and capped over, but such was not the case.

Bloomington,⊙ Ills.

For the American Bee Journal.

Assertion is Not Argument.

JOSHUA BULL.

Mr. Allen Pringle, on page 266, seemingly desires to avert the force of my arguments on page 166, and divert the attention of the reader into another train of thought, by saying that I had "proved myself a careless reader" and ascribed unto him what he did not say. Every one can see for himself that I quoted his phrase verbatim, and judge whether it was not fair to presume that the bees in question knew that their queen was failing, since Mr. Pringle himself had already said that she was somewhat advanced in age, and failing in fertility. But now he says, "On the contrary, I said that it was after the queen-cells were capped over that the old queen was in the dumps, as we certainly would expect her to be under such circumstances." By this does he mean to say that it was the building of those queen-cells that caused her to have "the dumps," and that she was all right until then? I think that he will find it a somewhat difficult task to convince the bee-keeping fraternity that bees are apt to supersede their queen without some reason for doing so.

He set out ostensibly to prove that bees are very deficient in instinct: that Nature's laws and methods are full of imperfections; and that men are continually improving upon her works and methods, and with "superior reason" are correcting her errors. Now, I want Mr. Pringle to stick to his text, and let his thesis stand or fall by the evidence which he can adduce to maintain it. On page 74, he offers certain observations and conclusions of his own, in support of it, and on page 266, he says: "I repeat, this was a foolish, short-sighted and suicidal piece of business on the part of those bees, amply demonstrating imperfect instinct." I do not question the correctness of this statement, so far as relates to the condition in which he found his bees, and had he allowed them to proceed unmolested, to consummate their plans, and had seen them violently kill their queen when it was not possible for them to get another one fertilized, then he would have had some evidence on the point in default of this; whilst on the other hand we have cases well attested by good authority, that bees do sometimes, if not always, allow their old queen to live until the young one is capable of filling her place; and that often the two live and work in harmony together for a time; therefore, I think that his conclusions were prematurely drawn, without waiting to see what the actual result would have been by allowing the bees to follow their instinct to the final achievement of their purpose; whereas the case is disrobed of any force or value whatever as an argument in support of his position. So, then, his first assertion followed by another assertion, neither of which is supported by any demonstration of facts, does not seem to me to be a very logical way of getting at the truth; and I cannot believe that the readers of the Bee Journal are prepared to accept of such a method of reasoning. If this is Mr. P's best and strongest argument, I think that his "imperfection" creed must fall.

I think that Mr. Pringle does not understand me rightly about those "improvements upon Nature." He seems to entertain the idea that as man acquires a more perfect knowledge of Nature's laws, and is thereby enabled to work more in harmony therewith, and as a consequence obtains a more perfect development of natural products, that he has made an improvement upon Nature's method, or superseded her laws by a more perfect way; whilst, as I understand it, Nature's laws and methods remain unaltered; man has only to improve upon his method of developing Nature by a more careful compliance with what her laws require. Nature will not always yield up her richest treasures until man has performed his part of toil and labor. The luscious fruit, the beautiful flowers, the splendid horses, the fine sheep, etc., which Mr. P. sets forth to be admired as man's improvements—all have to be produced by and through a strict compliance with Nature's own laws and methods. Any innovation or violation of these is sure to result in failure; and I will venture to say, without fear of successful contradiction, that man never has, nor never will, devise any other way for producing them than that which Nature, not man's superior reason, has already provided.

We might almost conclude from Mr. P's writings that he would have us believe that the principal reason why bees die off so badly is because they have not instinct enough to keep them alive! Well, that may be the case. Man also, with all of his superior reason, has to succumb to the same inevitable. I want to say in connection with this thought, that bees cannot make their own environments; it is not every hollow tree or crevice in a rock that affords them suitable shelter and a safe domicile. A dearth of honey-flow may leave them short of provisions; protracted cold weather may keep them confined until they perish with disease or starvation, or, perchance, frost will kill them. None of these things can be charged to their lack of foresight. But give them favorable surroundings, with opportunity to act up to their natural promptings at all times, then if they will not take care of themselves, why say they are deficient in instinct.

Mr. Pringle appears quite sensitive about the construction put upon some of his language, for fear it might be made to signify more than he intended; yet he does not hesitate to attribute to me language which I did not use at all. He says that I wanted to know "what the imperfections of Nature are." I did not ask for any such information. And in the latter part of his article he occupies considerable space with the enumeration of incidents and casualities, all of which are foreign to the points which I have taken, and thereby tries to make me appear inconsistent with myself. Now, please allow me to say to Mr. P., do not set up a man of straw in order to show your dexterity in demolishing it; and the next time you make up a catalogue of imperfect things, do not forget to put into it that men are imperfect in knowledge. If we were perfect in wisdom, and knew the why and the wherefore for everything, we might understand things quite differently, many times, and "Look through Nature up to Nature's God."

Seymour,⊶ Wis.

[This is drifting to personalities, and as such are distasteful to our readers, let it stop here.—Ed.]

For the American Bee Journal.

New Method of Transferring Bees.

S. DANIELS.

In regard to the new method of transferring, as advised by Mr. James Heddon and Prof. A. J. Cook, on page 228, which they say can be done at any time when the bees are on the wing, I wish to say that I endorse every word of Mr. O. Clute's article on page 330. I have just had a little sad experience in following out the method of transferring, as laid down by those bee-masters. I would like to have Mr. Heddon explain all the little details of the method, as it is referred to as his plan.

I find it just as Mr. Clute says. If the drumming is thorough there will be no bees left to care for the brood; if not thorough, one does not know but the queen may still be in the hive, then all would be lost. But to avert such a possibility, I gave my trial colony a frame of brood in all stages of development, from the egg to the capped brood, also a section of honey in the top of the hive, and yet in one day they dwindled down till there was scarcely a bee about the hive. Neither was there any about the parent hive, except a few young bees that came into the world without a friend to feed or protect them; and most of them crawled around, unable to fly, and were lost in the grass. Now, what was the matter, and how shall I avert the same trouble again? As Mr. Clute said, I found the old hive full of dead brood, and would have had a nice smell around my apiary this summer, if I had not melted the combs up into wax.

I put them on nearly full sheets of foundation, and I would never know how to do any better unless some one should come to my relief. I have 14 colonies left in box-hives, mostly new, good and painted, and the bees are in the best possible condition. I have wintered them two winters successfully, with the exception of a colony or two that lost their queen. I am putting their increase into Langstroth hives, which I expect to continue. My last year's new colonies came through the past winter all right, and are now working in sections, notwithstanding the backward spring. I have been surprised at the reported losses amongst some of the big bee-men: but when I begin to do as they do, I expect that it will be my fate also.

Pine Grove,♀ Ohio, May 28, 1885.

SELECTIONS FROM OUR LETTER BOX

Bees Doing Well.—Henry Knohnadle, Fair Haven,~o Ills., on May 29, 1885, writes thus:

I have made an examination of the hives of the bees that deserted on April 26, as mentioned on page 300, and I found that they had no bee-bread. My opinion is, that bees cannot rear brood without bee-bread. My bees are doing well, considering the season, and those that deserted their hives are at work, and no dissatisfaction seems to exist even in the colonies with which the deserters took up quarters.

New Honey.—Wm. Malone, Oakley, ♀ Iowa, on May 29, 1885, writes as follows:

Bees are booming. I never saw them do better at this time of the year. I have had new honey to eat since May 23. I have made 4 colonies from one, to prevent them from swarming. White clover is now ready for the bees. We feel good at the prospects for 1885.

A Bee-Killer.—Geo. Mott, Village Mills,o+ Texas, sends us an insect and the following query:

Please look at the accompanying insect and say if it is not by accident that we have him. A bee-tree was cut, and the cutters were going to hive the bees when they found this object, and immediately they suspended their labor, because they thought they had found a dead queen; but Mr. Ford took a box and brought the bees in and put them into a box-gum. He does not say he had this object tied in. He got to talking by wire with me, about his bees, until I finally sent him a movable-frame hive. He made the transfer on Saturday night, after his office was closed. He told me yesterday forenoon that he found lots of eggs and brood, thus proving that this thing was not queen of the swarm.

[The supposed queen is no bee at all, but a two-winged fly related to the Missouri and other dipterous bee-killers. Insects should be sent in a box, then they can be identified. When crushed like this one, it is quite impossible.—A. J. Cook.]

Heavy Fruit Bloom.—Henry Alley, Wenham,♂ Mass., on June 3, 1885, says:

The weather is very poor for bees. There was a very heavy bloom on the fruit trees, but owing to cold and rainy weather the bees did not do much in the way of honey-gathering. The best thing for bee-forage is white clover.

Bees Building Up and Swarming.—James B. Mason, Mechanic Falls,♀ Maine, on June 2, 1885, writes thus:

The bees are now booming, although we have had such a hard winter followed by the worst spring that I have ever seen, sweeping off hundreds of colonies after they were thought to be out of danger. Those colonies that have survived are going far beyond my expectations. I never saw bees build up as fast as they have during the last 4 weeks; nor have I seen such a flow of honey from fruit-bloom since 1870. Colonies are now casting large swarms, and the prospects for a good season look flattering.

Depleting the Hives.—Geo. W. Melville, Durango,o~ Colo., on May 28, 1885, writes thus:

Our bees wintered nicely, and commenced to carry in pollen about the middle of March, and by April 20, there were plenty of drones and young bees. During May the weather has been rather cold and cloudy, with light rains, and at this writing nearly all the bees in southwestern Colorado are dead. One party, out of 11 colonies, had but one left. I have 10, and all are reduced so that I shall unite them to about 4 or 5. We find bees crawling on the ground all about the hive. All crawl out of the hive to die. When they were short of honey, I fed them with granulated sugar in abundance; there is a plenty of bloom now, and has been for a month, but they do not seem to work any on it. Do bees have the "spring dwindling" after they made the start that ours have? Will Mr. Heddon please give his opinion of the cause of this trouble?

[This case resembles starvation, if it were in this locality. But as the bees were fed "granulated sugar in abundance," my mind turns towards poisonous honey; but as that is something we never have here, the cause is a stranger to our climate and location. Here bees die from "spring dwindling" after they make the start which yours have. Spring dwindling HERE is imperfect wintering.—James Heddon.]

Best Results with Deep Frames.—27—F. A. Snell, (110—105), Milledgeville,~o Ills., on June 1, 1885, writes thus:

My bees came through the past winter and spring in good condition. I put 110 colonies into winter quarters last November, and I lost one colony and 4 became queenless, thus leaving me 105. The loss of bees is very heavy throughout this section. Those in chaff hives have been no exception. Colonies in deep frames have fared better than those in shallow ones, where left on the summer stands; where wintered in good cellars, the result is about the same, I think. My bees are in good condition now. The winter and spring have been hard for bees here. My colonies were all wintered on natural stores.

Good Honey-Plant.—Fred. F. Rockwell, Leonard,♂ Texas, sends some blossoms of a shrub, and writes as follows:

I enclose a specimen of a shrub that is getting quite common on land allowed to grow up in brush. The Italian bees seem to work on it with more vigor than the blacks, though both have now deserted it for the rattan, which is just now blooming. Kindly give me the name of the shrub. Last winter was a severe one on bees, and the losses were very heavy, especially with those in box-hives. The weather has been remarkably cool, and bees take advantage of each fair day either to come out in a huff and abscond, or settle down to hard work. Their pranks seem to be out of the usual line. On May 17 I hived a swarm unusually well, and on the next morning, right after breakfast, I noticed that the bees in that hive were excited, and after a short search I found that they had balled and killed the queen outside of the hive. I find, by experimenting on a small scale with clover—Alsike and white—that it blooms with us just about the time of our most bountiful honey-flow. Catnip and mustard both bloom at a time when the bees are in need of new pasture.

[This is Amorpha fruticosa or false indigo. I have received this from North Carolina, Pennsylvania, and it is common in Michigan. It is reported everywhere as a good honey-plant. It belongs to the pulse or clover family.—A. J. Cook.]

Report, from E. P. Colburn, New Cassel,o+ Wis., on June 3, 1885:

I wintered 5 colonies without any loss, which encourages me a little, as some old bee-keepers have lost nearly all, and some have lost quite all.

Honey and Beeswax Market.

Office of the AMERICAN BEE JOURNAL, }
Monday, 10 a. m., June 8, 1885. }

The following are the latest quotations for honey and beeswax received up to this hour:

CHICAGO.

HONEY.—Demand is light and receipts are also light. Prices range from 10@15c. for best grades of comb honey, and for extracted, 5@7c.

BEESWAX.—Best grade weak at 28c.

R. A. BURNETT, 161 South Water St.

BOSTON.

HONEY.—We quote the following prices: Fancy white comb in 1-lb. sections, 16@18c.; the same in 2-lb. sections, 15@16c; fancy white California 2-lbs., 12@14c. Extracted weak, 6@8c. Sales very slow.

BEESWAX.—32 cts. per lb.

BLAKE & RIPLEY, 57 Chatham Street.

NEW YORK.

HONEY—Present sales of comb honey are very slow, and owing to the lateness of the season, we do not anticipate any change in prices until the new crop commences to arrive. We quote at present as follows: Fancy white clover in 1-lb. sections, 14@15c; fair to good white clover in 1-lb. sections, 12@13c; fancy white clover in 2-lb. sections, 13@14c; fair to good white clover in 2-lb. sections, 11@12c; fancy buckwheat in 1-lb. sections, 9@10c; fancy buckwheat in 2-lb. sections, 7@8c. Ordinary grades, no sale. Extracted white clover, 7@8c; extracted buckwheat, 6@6½c.

BEESWAX—Prime yellow, 29½@31c.

McCAUL & HILDRETH BROS., 34 Hudson St.

CINCINNATI.

HONEY—There is no new feature in the market. Our regular customers only are buyers at present. There is almost no outside demand, and low figures are no inducement. We quote extracted honey from 5@8c on arrival, and comb at 9@12c.

BEESWAX—Good demand and arrivals plentiful. We quote 24@28c for good yellow on arrival.

C. F. MUTH, Freeman & Central Ave.

SAN FRANCISCO.

HONEY—Market very quiet. Choice extracted is the only kind which buyers at present care to purchase in a wholesale way, and there is little of this sort offering. No new crop honey has yet arrived; none expected for several weeks. White to extra white comb, 8@9c; dark to good, 4@7c; extracted, choice to extra white, 4⅜@5¼c; amber colored, 4¼@4¾c.

BEESWAX—Quotable at 25@62c—wholesale.

O. B. SMITH & CO., 423 Front Street.

ST. LOUIS.

HONEY — Steady; demand and supply both small. Comb, 12@14c per lb., and strained and extracted 5½@6c.

BEESWAX—Firm at 32@32½c. for choice.

W. T. ANDERSON & CO., 104 N. 3d Street

CLEVELAND.

HONEY—Since our last report there has been a little better demand for honey, and some sales have been made at 13½@14c for best white honey in 1-lb. sections. Second quality is still very dull at 12@13c. Extracted is not salable at any price in our market.

BEESWAX.—Scarce at 28@30.

A. C. KENDEL, 115 Ontario Street.

KANSAS CITY.

HONEY—Demand is light and prices weak. We quote choice ½-lb. sections, 15@16c; 1-lb., 13@14c; 2-lb., 10@11c. Extracted, 5@6c, according to quality. Half-pound sections of comb honey are in demand.

BEESWAX—25@30c.

CLEMONS, CLOON & CO., cor. 4th & Walnut.

SAN FRANCISCO.

HONEY—We quote comb honey in 2 lb. sections 13@14c; extracted, 6½c.

GEO. W. MEADE & CO., 213 Market.

◆

Bee-Keepers' Badges at Fairs.

We have some **ELEGANT RIBBON BADGES**, having a rosette and gold Bee, for bee-keepers' use at Fairs, Conventions, etc. Price 50 cents each, by mail, postpaid.

Address, **THOMAS G. NEWMAN,**
925 West Madison St., CHICAGO, ILL.

Special Notices.

☞ We have received the Price-List of Howard U. Ackerman & Co., North Indianapolis, Ind.—household conveniences, hive-hooks, and seeds.

◆

☞ For two subscribers for the Weekly BEE JOURNAL (or 8 for the Monthly) for one year, we will present a Pocket Dictionary, and send it by mail, postpaid.

◆

☞ If your wrapper-label reads JUNE 85, please remember that your subscription runs out with this month. Renew at once, so as not to lose any numbers.

◆

☞ **Preserve your papers** for reference If you have not got a Binder we will mail you one for 75 cents, or you can have one FREE if you will send us 3 new yearly subscriptions for the BEE JOURNAL.

◆

☞ **Sample Copies** of the BEE JOURNAL will be sent FREE upon application. Any one intending to get up a club can have sample copies sent to the persons they desire to interview by sending the names to this office.

◆

☞ **Back Numbers.**—We can supply a few more of the back numbers to new subscribers. If any want them, they must be sent for soon, before they are all gone.

◆

☞ Our rates for two or more copies of the book, "Bees and Honey," may be found on the Book List on the second page of this paper. Also wholesale rates on all books where they are purchased "to sell again."

◆

☞ We want one number each of the BEE JOURNAL of August, 1866—February, 1867. Any one having them to spare will please send a Postal Card. We will pay 50 cents for one copy of each of the two numbers.

◆

The Illinois State Fair will be held at Chicago, Sept. 14-19, 1885, at the Driving Park, West Madison Street.

◆

To Correspondents. — It would save us much trouble, if all would be particular to give their P. O. address and name, when writing to this office. We have several letters (some inclosing money) that have no name; many others having no Post-Office, County or State. Also, if you live near one post-office and get your mail at another, be sure to give the address we have on our list.

◆

How to Propagate and Grow Fruit, by Charles A. Green, contains over 50 illustrations and two colored fruit plates. A 64-page book, price **25** cents, telling how to propagate and multiply strawberries, raspberries, blackberries, currants, gooseberries, grapes, quince, peach, apricot, plum, cherry, pear and apple. It tells how to lay out a garden or fruit farm—how to plant, cultivate, trim, etc. For sale at this office.

Advertisements.

SEND POSTAL for Circulars of **BEES, QUEENS, COMB FOUNDATION,** etc., etc. Address,
G. H. KNICKERBOCKER, Pine Plains, N. Y.
23Dtf

IMPORTED QUEENS!

Read my Circular before ordering any Imported Queens from Europe. Address,
23Atf **HENRY ALLEY, Wenham, Mass.**

My 17th Annual Price-List of Italian, Cyprian and Holy-Land Bees Queens and Nuclei colonies (a specialty); also Supplies—will be sent to all who send their names and addresses. **H. H. BROWN,**
17Dtf Light Street, Columbia County, Pa.

BEE-KEEPERS' GUIDE;

Or, MANUAL OF THE APIARY.

12.000 SOLD SINCE 1876.

13th Thousand Just Out!

10th Thousand Sold in Just Four Months!

3,000 Sold Since May, 1883.

More than 50 pages, and more than 50 fine illustrations were added in the 8th edition. The whole work has been thoroughly revised, and contains the very latest in respect to bee-keeping. It is certainly the fullest and most scientific work treating of bees in the World. Price, by mail, **$1 25.** Liberal discount to dealers and to clubs.

A. J. COOK, Author and Publisher,
1Cly Agricultural College, Mich.

☞ For sale also at the Office of the BEE JOURNAL, at wholesale or retail.

QUEENS **Send for Price-List of** Italian & Holy-Land Queens for **1885.** BEES by the pound, nuclei and full colonies. **J. C. MISHLER,**
11D6t **Ligonier, Noble County, Ind.**

Twenty-Five Hundred Bee-Keepers

have in use **TEN-THOUSAND of ALLEY'S DRONE AND QUEEN TRAPS.**

ALL who have tested them pronounce them PERFECT. Mr. Dadant is the only one who ever found fault with them, and as he never used or saw one, we can excuse him.

"I would not take $5 each for the 2 dozen Traps I bought of you.—ELI HARVEY, Sibley, Ills."

Sample of the latest improved, by mail, **65** cts. Send for Circular. Address,
23A2t **HENRY ALLEY, Wenham, Mass.**

1885.—QUEENS—1885.

ALBINO AND ITALIAN QUEENS,

producing workers to the BEST for purity, docility and industry. Write for Circular. Also have DOLLAR Queens.
22D4t **H. P. DEAHL, Berryville, Va.**

BINGHAM SMOKERS.

I can sell the above Smokers at MANUFACTURERS' PRICES, by mail or express, at wholesale or retail. All the latest improvements, including THE CONQUEROR, and THE DOCTOR.

Send for my 32-page Illustrated Catalogue of Bee-Keepers' Supplies of every description

ALFRED H. NEWMAN,
923 W. Madison, CHICAGO, ILL.

Send for Circular of the **Rarest Books on Earth.**
(box 14) B. G. STAUFFER, Bachmanville, Pa.
12B1y

ELECTROTYPES

Of Engravings used in the Bee Journal for sale at 25 cents per square inch—no single cut sold for less than 50c. **THOMAS G. NEWMAN,**
925 West Madison Street **Chicago, Ill.**

New and Enlarged Edition
OF
BEES and HONEY,
OR THE
Management of an Apiary for Pleasure and Profit; by
THOMAS G. NEWMAN.
Editor of the Weekly Bee Journal.
925 West Madison Street, Chicago, Ill.

It contains 220 profusely illustrated pages, is "fully up with the times" in all the improvements and inventions in this rapidly developing pursuit, and presents the apiarist with everything that can aid in the successful management of the Honey-Bee, and at the same time produce the most honey in its best and most attractive condition.

PRICE—Bound in cloth, $1.00; in paper covers, 75 cents, postpaid.

☞ **A Liberal Discount to Dealers, by the Dozen or Hundred.**

☞ The Monthly BEE JOURNAL for a year and the bound book, "Bees and Honey," will be sent for $1.25.

DUNHAM AND VANDERVORT FOUNDATION.

WE have bought a large stock of **Choice Yellow Beeswax**, and can furnish Dunham Comb Foundation for brood comb for **45c.** per lb. Thin Dunham for Sections, **50c.** per lb. Extra thin Vandervort, 10 to 12 square feet to the lb., **55c** per lb. **Send for prices for 25 lbs. or more.** Will work up wax into Foundation for **10, 15** and **20c.** per pound.

F. W. HOLMES,
9D9t COOPERSVILLE, Ottawa Co., MICH.

The Canadian Bee Journal.
16-page Weekly—**$1.00** per year.
Cheapest Weekly Bee Journal in the World.
American Currency and Stamps accepted at par. Sample copies free.
D. A. JONES & CO.,
21D3t **Beeton, Ont., Canada.**

BE SURE

To send a Postal Card for our Illustrated Catalogue of APIARIAN SUPPLIES before purchasing elsewhere. It contains Illustrations and descriptions of everything new and valuable needed in an apiary, at the lowest prices. Italian Queens and Bees. Parties intending to purchase Bees in lots of 10 colonies or more, are invited to correspond.

J. C. SAYLES,
1D15t 2B5t HARTFORD, WIS.

Vandervort Foundation Mill.
6 Inch, Price, $25.00.
It makes the finest extra thin Foundation for comb honey. For Sale by
ALFRED H. NEWMAN.
923 West Madison Street, - CHICAGO, ILL.

THE BRITISH BEE JOURNAL
AND BEE-KEEPER'S ADVISER.

The BRITISH BEE JOURNAL is published SEMI-MONTHLY, at Seven Shillings per annum, and contains the best practical information for the time being, showing what to do, and when and how to do it. **Rev. H. R. PEEL, Editor.**
LONDON, ENGLAND.

The British Bee Journal and our Weekly for $3.50: with our Monthly, $2.00 a year.

Bee Hives
AND
SECTIONS.
NEW SHOP AND NEW MACHINERY !!
The Largest Manufactory of Bee Hives Sections, etc., in the World!

Our capacity now is a **CAR-LOAD OF GOODS DAILY.**

NOTICE.—In enlarging our factory last year, we were put behind with our work so that by spring, were obliged to return many orders. Now we have ample stock ahead and can fill all orders promptly.

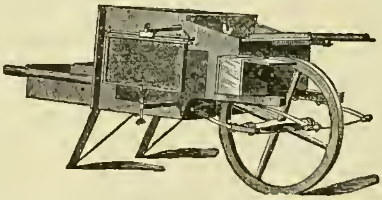
Write for Price-List for 1885.
G. B. LEWIS & CO.,
13ABtf WATERTOWN, WIS.

Vandervort Comb Fdn. Mills,
Send for Samples & Reduced Price-List.
ABtf **J. VANDERVORT, Laceyville, Pa.**

FOR SALE.

THE undersigned offers for sale at a **bargain**, about 40 neatly painted improved MOVABLE COMB HIVES. If you want a chance in your lifetime, write immediately. **ADIN A. SMITH,**
21Atf Mohawk, Herkimer Co., N. Y.

SYSTEMATIC AND CONVENIENT.



DAVIS' PATENT HONEY CARRIAGE,
REVOLVING COMB-HANGER,
Tool Box and Recording Desk Combined.
Price, complete, only .... $18.00.
For sale by **ALFRED H. NEWMAN,**
923 West Madison Street. - CHICAGO, ILL.

BEES and QUEENS
AT GREATLY REDUCED PRICES.

AFTER June 15, I will sell 2-frame Nuelci, with 2 lbs. of Bees in each, for **$2.25**, without Queen. Tested Queens, $1.50 each. Warranted Queens, $1.00 each. Untested Queens, 75 cents each, of either Syrians or Italians.

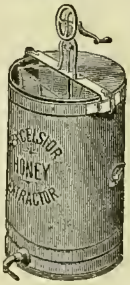
I. R. GOOD, Sparta, White Co., Tenn.
22A2t

W. Z. HUTCHINSON,
Rogersville, Genesee Co., Mich.,
can furnish just as neat, white, smooth and perfect, dovetailed, white poplar sections as there are made. Send for sample and prices. A few full colonies of choice Italians in Heddon hives for sale at $8.00 per colony. Untested Italian Queens, $1.00 each. Tested Queens reared last year in the home apiary, $2.00 each. Beeswax wanted. Make money orders payable at Flint. 16Atf

DOOLITTLE.—For prices of his QUEENS see page 349 of BEE JOURNAL, or send for Circular. G. M. DOOLITTLE, Borodino, N. Y.
11E15t

J. W. ECKMAN,
DEALER IN
Pure Italian Bees and Queens
For further information, send for Circular.
11A13t RICHMOND, Fort Bend Co. TEXAS.

EXCELSIOR
HONEY EXTRACTORS



In answer to frequent inquiries for Extractors carrying 3 and 4 Langstroth frames, I have concluded to adopt these two new sizes. The 3 frame basket is in a can of the same size and style as the 2 frame. The 4 frame basket is in the larger can, with the cone or metal standard for the basket to revolve upon, leaving room underneath the basket for 75 or 80 lbs. of honey. It will be complete, with covers, and in every way identical, except in size, with the $16.00 Extractor, 13x20, which is intended for any size of frame.

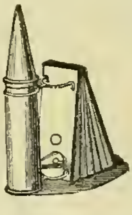
Excepting with the $8.00 Extractors, all the different styles have strainers over the canal leading to the honey gate, and movable sides in the Comb Baskets. The $8.00 and $10.00 Extractors have no covers.

For 2 American frames,	13x13	inches	$8 00
For 2 Langstroth "	10x18	"	8 00
For 3 " "	10x18	"	10 00
For 4 " "	10x18	"	14 00
For 2 frames of any size,	13x20	"	12 00
For 3 " "	13x20		12 00
For 4 " "	13x20	"	16 00

ALFRED H. NEWMAN,
923 West Madison St., CHICAGO, ILL.

Dadant's Foundation Factory, wholesale and retail. See Advertisement in another column.

HELP for working people. Send 10 cents postage, and we will mail you *free*, a royal, valuable sample box of goods that will put you in the way of making more money in a few days than you ever thought possible at any business. Capital not required. You can live at home and work in spare time only, or all the time. All of both sexes, of all ages, grandly successful. 50 cents to $5 easily earned every evening. That all who want work may test the business, we make this unparalleled offer: To all who are not well satisfied we will send $1 to pay for the trouble of writing us. Full particulars, directions, etc., sent free. Immense pay absolutely sure for all who start at once. Don't delay. Address STINSON & CO.
51A1y Portland, Maine.



Bee-keepers' Supplies,
Standard Langstroth,
Quinby Standing-Frame,
And all other kinds of **Hives,**
MADE TO ORDER,
Quinby Smoker a specialty.

I shall supply anything you need in the Apiary
Send for Illustrated Price List.
W. E. CLARK, successor to L. C. Root,
7A17t ORISKANY, Oneida County, N. Y.

Dadant's Foundation Factory, wholesale and retail. See Advertisement in another column.

DISCOUNT
ON
WIRE NAILS!

UNTIL further notice, I can make a discount of **25** per cent. from my Catalogue prices on **Wire Nails**, owing to a decline in the market.

ALFRED H. NEWMAN,
923 West Madison Street, - CHICAGO, ILL.

1879. —— **ITALIAN** —— 1885.
QUEENS!

FOR ITALIAN QUEENS in their purity, and that cannot be excelled, **Comb Foundation** and **Supplies** generally, send for Circular.

12 UNTESTED QUEENS FOR $11.00.
15A12t **T. S. HALL, Kirby's Creek, Ala.**

Dadant's Foundation Factory, wholesale and retail. See Advertisement in another column.

WEEKLY EDITION
OF THE
AMERICAN
ESTABLISHED IN 1861
OLDEST BEE PAPER IN AMERICA
BEE JOURNAL
PUBLISHED BY
THOMAS G. NEWMAN,
EDITOR AND PROPRIETOR,
925 WEST MADISON-STREET, CHICAGO, ILL.
Weekly, $2 a year; Monthly, 50 cents.

Vol. XXI. June 17, 1885. No. 24.

APICULTURAL NEWS ITEMS.

EDITORIAL AND SELECTED.

Once I thought it nice to run
  And watch the busy bee so fleet;
But I think much nicer fun
  The bee's nice honey now to eat.

Notwithstanding the inclemency of the season, our bees have passed the winter and spring in good condition, and are now well supplied with honey and brood. To the wide-awake bee-keeper, the prospect for a good honey yield is very flattering. So remarks the *Kansas Bee-Keeper*.

Burning Words.—Deep feeling is contagious! Earnest words poured forth from burning hearts are sure to *kindle a fire* in the hearts of others. What magic is there in the tear drop! It is a tiny thing, but its *power* on the hearts of others is incalculable! If the heart *palpitates* through every printed line, and *burns* through every word, what enthusiasm is enkindled!

A Norwegian Bee-Book, containing 80 pages, is just received from its author, Mr. Ivar S. Young, of Christiana, Norway. It is nicely gotten up, and although we cannot decipher the language in which it is written, yet we judge, from the extensive apicultural experience of the author, it will meet the wants of our fellow bee-keepers located on the Scandinavian Peninsula.

The Sixth Annual Fair of the Venango County Agricultural Society, will be held at Franklin, Pa., on Sept. 15-17, 1885. In its list of premiums in the department of "butter, cheese, honey, etc.," are two cash premiums for honey and one for beeswax; also the one who secures the most premiums in this department, will receive free one year's subscription to the AMERICAN BEE JOURNAL.

"Millions for Defense."—We are glad to see the enthusiasm displayed when our chosen pursuit is assailed. While we will not make war upon any legitimate pursuit, we shall make a defense when attacked, like the ancient warriors, and the sinews of war will not be wanting. Our "tower of strength" will be in the rightfulness and justice of our cause.

Elegant Bee.—The Bee-Keepers' Association of the Isle of Wight has presented the Princess Beatrice with a silver bee with diamond-studded wings. The Royal family of England have often shown their interest in the industry of bee-keeping. In 1879, when we were at the Royal Agricultural Fair, the Prince and Princess of Wales visited the bee-tent, and asked many questions concerning "the little busy workers" there on exhibition, appearing to be very much interested in the subject.

The Weather in Great Britain.—By the *British Bee Journal* we learn that the weather, previous to May 15, had been most unfavorable for bees. There was snow in Scotland—snow on the Cotswold Hills, biting, bitter winds, with frost and no sunshine, and no natural swarms. Apples, peaches, plums and cherries showed an unusual amount of bloom, but the bees had scarcely been able to work upon it at all. It was thought that should the unfavorable condition of things continue a few days longer, all chance of a harvest from fruit-bloom would be over.

Teaching Apiculture in Schools.—At the Bee-Keepers' Congress held in Erfurt in 1881, Mr. Kwiathowski, of Lissa, stated that Germany annually imports, on an average, about 5,000,000 lbs. of honey, and about 2,100,000 lbs. of wax. He then added: "But do we export? I think not. Now, then, can we so promote the development of apiculture that the new system and the old—the 'mobilism' and the 'fixism'—may both furnish the products necessary for the consumption of the country? This can be done by the school; let the primary normal school have its apiary for the instruction of the future teacher; then let the garden of this teacher have also its apiary to assist him in teaching what he has been taught; after which comes the organization of country associations for the application and trial of the right methods; and finally let itinerant professors be appointed to go everywhere to explain these methods in full."

National Bee-Keepers' Union.—The universal response to the suggestions given on pages 339 and 346 of the BEE JOURNAL is: *Organize immediately in defense of our rights.*

By request, we present, on the next page, a Constitution for approval. Now, suggestions are in order—then energetic work!

The management must devolve upon some one, and as no one has been suggested as General Manager but the editor of the BEE JOURNAL, he will accept the position under the temporary organization until an election can be obtained under the Constitution. He neither seeks nor desires the office, but accepts it as a *duty* under the circumstances, and requests suggestions for the other four temporary officers.

A member's Receipt Book will be at once prepared, and any one sending 25 cents (or more) will be duly recorded as a member, and receive a receipt, which will entitle the person therein named to all the benefits of the Union. All amounts over the fee of 25 cents will be credited to the Defense Fund, to be used as occasion may require.

We would suggest that the first meeting be held at the same time and place as the annual meetings of the North American or Northwestern Conventions, at Detroit or Chicago, next fall.

The Value of Honey imported into Great Britain during the month of April, 1885, amounted to nearly $5,0000.

E. Terraberry, a bee-keeper of High Bridge, N. J., has had the sad misfortune to lose, by death, his entire family, consisting of wife and two children—one 7 and the other 12 years of age. His home was visited on May 8, by diphtheria, that fatal malady, and in three weeks caused the terrible havoc. Mr. T. may be assured that he has the earnest sympathy of the entire bee-keeping fraternity. In the East he has long been known as one of the most advanced apiarists of the State in which he resides.

The Relation of Bees to Plants is the subject of an excellent article by Prof. Frank Cheshire, of London, England, on pages 374 and 375 of this issue. It is quite interesting and very appropriate just now. Another article on page 376, translated from the *Bienen Zeitung*, giving extracts from Sir John Lubbock, Dr. Dzierzon, Darwin, Huber, and other noted apiarists and scientists; also another, on the same page, giving the results of experiments on the fertilization of the clovers, by Prof. Beal, of the Michigan Agricultural College, are all timely and interesting now.

Can Bees Commit Trespass?—The Chicago *Times* discusses this subject in the following language:

"Mr. S. I. Freeborn, of Ithaca, Wis., has been made defendant in a novel suit. He keeps a lot of bees at some distance from his house, and about a mile from a pasture mostly covered with white clover, and occupied by about a hundred blooded sheep. The owner of the pasture and sheep brings suit to recover $500 damages done by the bees, which, he declares, come in countless hordes, molest the sheep, and drive them from their feeding-places. He also affirms that last season his sheep became thin in consequence of the annoyance of the bees, and that many of them died during last winter. The bringing of this suit has created considerable excitement among bee-keepers in Wisconsin, and the proposition has been made that they contribute money to help pay the expenses of defending the suit. It is understood that this is to be a test case. If the plaintiff succeeds in gaining it, other bee-keepers will be likely to be sued to recover damages done to pastures, vineyards, and gardens by bees. It is possible that the "little busy bee" may become the cause of many vexatious lawsuits. If damages are awarded in this case, any man owning a few square rods of land, devoted to almost any purpose, may try to recover damages from all the owners of bees in the vicinity. Nearly all the naturalists, from Aristotle to Darwin, have given their testimony in favor of the good work accomplished by bees in fertilizing flowers, and making it possible to produce large crops of clover seed. Recently bees have been introduced into various parts of Australia by the owners of extensive sheep-runs, for the express purpose of increasing the production of clover in the pastures. Many fruit-raisers in this country and Europe have found it to their advantage to keep bees, not for the honey and wax they gather, but for the benefit they produce in fertilizing flowers. Bees have been accused of puncturing grapes, and now they are charged with worrying a flock of sheep!"

A few days ago some small fruit gardeners called at the office of the BEE JOURNAL, and incidentally remarked that they did not keep bees for their products—honey or wax—but to fertilize the bloom of their fruit and vegetables, and thus enhance their business. We give considerable space in this number of the BEE JOURNAL to subjects bearing on this topic, believing it to be the most important matter now for discussion by bee-keepers.

QUERIES
WITH
REPLIES by Prominent Apiarists.

When to Transfer Bees.

Query, No. 75.—When is the best time to transfer bees from old "gums" to movable-frame hives?—Edgar Co., Ill.

W. Z. HUTCHINSON says: "During a flow of honey in the spring."

DADANT & SON say: "During apple blossoms."

G. W. DEMAREE answers as follows: "I transfer bees just as soon in the season as I find them getting enough honey from the fields to keep down robbing."

DR. C. C. MILLER replies thus: "During fruit-bloom."

DR. G. L. TINKER says: "The easiest, if not the best, time to transfer bees, is just before fruit-bloom, as there is the least honey in the combs then."

PROF. A. J. COOK answers thus: "In the middle of a warm day during fruit-bloom, if the old method is used, as the combs are then light, and the bees are good-natured."

G. M. DOOLITTLE replies as follows: "I prefer to wait till 21 days after the prime swarm has issued from the colony, as then the young queen will have only just begun to lay, and all the worker brood will be hatched out, so no loss of brood will occur. The next best time is in apple-bloom, although it can be done successfully, if care is exercised, at any time when the bees can fly."

JAMES HEDDON says: "By 'modern transferring,' as described on page 367 of the BEE JOURNAL for 1883, any time after the hives are well filled with bees and brood, and the weather is warm. By the old method of tying in old combs, many prefer the time of apple-bloom; and 15 to 20 days after the colony has cast a prime swarm is a good time, if you have a honey extractor."

Mouldy Brood-Combs.

Query, No. 76.—What is the best to do with mouldy brood-combs?—B. K.

MESSRS. DADANT & SON reply: "Put them where they will get dry, and then give them to strong colonies; they will clean them. If old and thick, melt them up."

G. W. DEMAREE remarks thus: "I hang them up where they will become thoroughly dry, then brush away the dust with a stiff brush, and give them to strong colonies (not too many at a time) to be cleaned by the bees."

DR. C. C. MILLER says: "Give them, one or two at a time, to strong colonies."

DR. G. L. TINKER answers thus: "Bees do not like to touch mouldy combs, and will not until forced to do so for the want of room. It seems to me the better plan would be to cut out the mouldy parts and replace them with clean comb. Mouldy comb is worthless for wax."

PROF. A. J. COOK remarks thus: "Give them, one at a time, to a strong colony, after cleaning them as well as one can; or else melt them up."

G. M. DOOLITTLE replies as follows: "Hang them, one at a time, in a strong colony after the weather gets warm, when the bees will clean them up nicely in 24 hours."

JAMES HEDDON remarks thus: "If not too mouldy, and good in all other respects, place them in the center of strong colonies, as soon as it is safe to spread the brood, and let the bees clean them up, which they can do cheaper than the bee-keeper."

W. Z. HUTCHINSON advises thus: "Melt them up into wax if they are very mouldy; if not, a comb or two at a time given to a strong colony, will secure their being cleaned up."

Youth's Companion.

Susie's Swarm of Bees.

"Oh, grandpa!" said Susie, one morning,
"Your bees have come out of their coop,
And they're all cuddled up on the peach-tree
In the funniest kind of a group."

Our Susie is just from the city;
She notices all that she sees,
And her prompt though inaccurate warning
Saved grandpa a fine swarm of bees.

Defense Fund.

Here are some responses in addition to the Correspondence published on the other pages of this BEE JOURNAL:

We like Mr. Heddon's plan of a defense organization for bee-keepers, and will vote for the Editor of the BEE JOURNAL to act as secretary and treasurer. You can count on us for all the help we can give.—DECKER & ANGELL, Boyceville, Wis.

I have just read of Mr. Freeborn's suit; it is a great bugaboo. Doubtless it will cost something to defend it if tried, but I do not think any one will be foolish enough to let such a suit come to trial. They might as well swear to the identity of a dog that killed sheep, when the dog was not seen, as to swear that they were Mr. F's bees. When they prove the individuality of a honey-bee, they will be pretty sharp. If Mr. F's bees had a private mark, then they might prove that they were his that did the damage.—J. H. ANDRE, Lockwood, N. Y.

Enclosed please find two dollars to assist in defense of Mr. S. I. Freeborn, of Ithaca, Wis., in the suit, "sheep *vs.* bees."—HENRY W. STEPHENSON, Cincinnati, Ohio.

Put my name down on the list of the Bee-Keepers' Defense Organization for one dollar, and let me know when it is wanted.—HENRY MARDEN, Roodhouse, Ills.

By all means we must stand by Mr. S. I. Freeborn in his suit about the bees and sheep. Let it cost what it will, we must do all that is possible to defend the case. Draw on us for our proportion of the cost at any time—whether it is $1 or $10, we will do our share.—E. FRANCE & SON, Platteville, Wis.

This Wisconsin case must be defended to the last. Enter my name for $1, and I will make it $5 if necessary.—C. H. DIBBERN, Milan, Ills.

My dollar is ready for the "defense fund." I hope that the "big guns" will soon perfect the organization.—P. J. ENGLAND, Fancy Prairie, Ills.

CONSTITUTION OF
The National Bee-Keepers' Union.

ARTICLE I.—This organization shall be known as the "National Bee-Keepers' Union," and shall meet annually, or as often as necessity may require.

ARTICLE II.—Its object shall be to protect the interests of bee-keepers, and to defend their rights.

ARTICLE III.—The officers of this Union shall consist of a President, three Vice-Presidents, and a General Manager (who shall also be the Secretary and Treasurer), whose duties shall be those usually performed by such officers. They shall be elected by ballot, and hold their several offices for one year or until their successors are elected and installed; blank ballots for this purpose to be mailed to every member by the General Manager.

ARTICLE IV.—The officers shall constitute an Advisory Board, which shall determine what action shall be taken by this Union, upon the application of any of its members for defense, and cause an assessment to be made upon all the members when the funds may become necessary for defense.

ARTICLE V.—Any person may become a member by paying to the General Manager an annual fee of 25 cents, for which he shall receive a printed receipt making him a member of this Union, entitled to all its rights and benefits. This annual fee shall be due on the first day of July in each year, and MUST be paid within 30 days in order to retain membership in this Union.

ARTICLE VI.—Donations for the Defense Fund, in addition to the membership fee, may be made at any time and of any amount.

ARTICLE VII.—The annual fees paid by the members shall become a general fund, from which shall be paid the legitimate expenses of this Union, such as printing, postage, clerk-hire, etc.

ARTICLE VIII.—Meetings of this Union shall be held at such times and places as shall be designated by the Advisory Board, or upon the written requisition of ten members.

ARTICLE IX.—This constitution may be amended by a majority vote of all the members at any time.

☞ The Bee-Keepers' Association of Central Illinois will meet at Bloomington, Ills., on July 15, 1885, at 10 a. m.
WM. B. LAWRENCE, *Sec.*

CORRESPONDENCE

Explanatory.—The figures BEFORE the names indicate the number of years that the person has kept bees. Those AFTER, show the number of colonies the writer had in the previous spring and fall, or fall and spring, as the time of the year may require.

This mark ☉ indicates that the apiarist is located near the centre of the State named: ♁ north of the centre; ♀ south; O+ east; +O west; and this ♂ northeast; ‵O northwest; O‵ southeast; and ⚲ southwest of the centre of the State mentioned.

For the American Bee Journal.

What Causes Bee-Diarrhea?

8—W. Z. HUTCHINSON, (80).

On page 325, Mr. Doolittle reviews my article upon the above subject, by quoting one-half of my closing sentence. This is like attempting to make comb foundation with only one die. Two dies, or both halves of this sentence, are needed to get more than a one-sided impression. In fact, so far as solving the wintering problem is concerned, the latter half of the sentence is the more important. The whole sentence reads as follows: "Perhaps this (the mistake) is in attempting to keep bees out of their native clime, without recognizing and complying with the changed conditions." Keeping bees out of their native clime does not produce diarrhea; it is keeping them there without complying with the changed conditions. During the past cold winter many bees have wintered perfectly in the far North; if like causes produce like effects, and keeping bees out of their native clime produces bee-diarrhea, then all of the bees out of their native clime should have perished.

Mr. Doolittle says: "Let some one produce a case of bee-diarrhea without confinement." Something causes bee-diarrhea. Frequent flights are an antidote for the disease. When bees enjoy frequent flights, the disease cannot develop, because the effects of the cause are removed so quickly. A ship sinks in the ocean because it leaks. If the water be frequently pumped out, so that it does not become "overloaded," it will not sink. Let the pumping cease for a sufficient length of time, and the vessel will sink, and why? Is it because the water is not pumped out, or because it runs in? In bee-keeping we cannot "pump" when we please, so we propose to "stop the leak." Mr. Heddon writes me that on April 19, he took from his cellar more than 60 colonies that had been confined 151 days. The combs and covers were damp and moldy, but the bees were in perfect health; his white shirt-sleeves, the white hives and covers failed to show a particle of discharge of any kind. The bees were as slim as in the fall. We have had many, many such instances where bees were confined as long a period as it will ever be necessary to confine them, with no traces of diarrhea; hence, when the cause of bee-darrhea is removed, when we "comply with the changed conditions," we can truthfully say, confinement does not cause bee-diarrhea.

Mr. Doolittle quotes from Mr. Demaree's and Mr. Tinker's writings to show that, "the trouble is wholly incident to long, cold weather." If this is true, then why are some bees dead and some alive in spots all over the country?

Mr. Doolittle wishes to be put on record that confinement, long enough continued, will always result in diarrhea, no matter what the food, provided the bees do not starve. This is, of course, only assertion, and, even should it prove true, it would be of no practical value, as we have no desire to confine our bees more than 5 or 6 months; and it has been proved, time and again, that they can be confined that length of time with not a trace of diarrhea.

Mr. Doolittle says: "To those who claim that the food has all to do with it," etc. Will Mr. D. please name any one who makes this claim?

It seems strange that neither Mr. Heddon, myself, nor many others can get a case of bee-diarrhea when the pollen is practically all removed, and Mr. Doolittle succeeds so readily.

Mr. Heddon writes me that the word pollen should not be confounded with bee-bread; that bee-bread is one form of pollen—a form that he has demonstrated that the bees will not touch if the temperature is kept high enough; that this newly demonstrated fact, regarding the effect of temperature upon the consumption of bee-bread, settles nine-tenths of the difficulty alone; and that when he (Heddon) discloses his promised system of bringing bees out in a starving condition in the fall, the honey being sold, bee-keepers will find the feeding process simply economy and fun.

Lastly, Mr. Doolittle says: "If we would be sure that no pollen or meal is in the hive, we must wait about our preparations for winter until it is so late in the season that the syrup fed could not be sealed over; in which case it would be worse than plenty of pollen." In reply to this I would say that I know of an instance in which more than 100 colonies were wintered in a damp cellar upon thin sugar syrup, which was fed so late that the bees sealed scarcely any of it, and did not evaporate it to full honey consistency, yet the bees came out in the spring in splendid condition.

Rogersville, ♂ Mich.

For the American Bee Journal.

Haldimand, Ont., Convention.

The Haldimand Bee-Keepers' Association met at Nelles' Corners, Ont., on May 29, 1885. The minutes of the previous meeting were read and approved.

Reports from 29 members showed 547 colonies last fall and 392 this spring. The cause of loss was generally attributed to leaving too many frames in the hive, thus giving the bees too much space to keep warm. A few colonies starved to death for want of stores; a few perished from dampness, and a few from diarrhea.

The question, "Which is the most profitable to produce, comb or extracted honey?" was discussed, and the majority seemed to favor extracted honey.

On the subject of marketing honey to the best advantage, the President thought that the first thing to be done was to put it up in neatly shaped packages, nicely labeled, but not too large ones. He preferred glass cans, as they could always be sold for what they cost, while people did not care to pay for tins. Mr. DeCew had tried glass and tin cans, labeled with his name, and found that the people preferred to buy honey in glass packages. Mr. Holterman believed glass was the best, as the package could be sold for what it cost; but for shipping a long distance, he would recommend tin. He thought small packages were preferable.

After discussing other important questions, it was decided that the meetings of the County Bee-Keepers' Association be held at Cayuga, Nelles' Corners, Jarvis and Hagersville; and that the next meeting be held at Jarvis, on Sept. 25, 1885, at 11 a. m.

E. C. CAMPBELL, *Sec.*

For the American Bee Journal.

Black Bees, Bee-Pasturage, etc.

BYRON HAMS.

On Sept. 16, 1884, I received an Italian queen and placed her in a hive of black bees, destroying the black queen on the same day. To-day (June 8) I find a few black bees coming out and going into this same hive, thus making them about 8 months old. I find, upon examination of my hives to-day, that each frame in the brood department contains from two to five pounds of honey, all having been gathered within the past two weeks. Black locust yielded a wonderful amount of honey for two days. Honey locusts are in bloom now, and are very rich in nectar. The northeastern part of this county (Audrain) is covered with white clover which blooms from May 20 until frost. We have also a fine autumn honey-flow from Spanish-needle, which grows and blooms in great abundance all over this county. I had one colony of blacks which gathered 60 pounds of surplus Spanish-needle honey in two weeks. We have plenty of wild plum and crab-apple to start bees booming early.

I believe that my bees are preparing to diet principally on bee-bread, next winter, as I have never before seen half as much in the combs. Next winter I am going to fill two hives chock-full of combs containing bee-bread, and two others with pure honey and sugar syrup, and see for myself what the difference will be.

Bees wintered well in this neighborhood. A neighbor of mine lost 2 colonies out of 80; all being wintered on the summer stands without any protection. I believe that the long continued cold caused nine-tenths of the losses in out-door wintering, especially so with hives having shallow frames.

I, for one, second Mr. Heddon's motion, and am ready with my dollar to help in what I believe to be a good cause.

Worcester, Mo.

London Journal of Horticulture.

Bees in Relation to Flowering Plants and Fruit Production.

The following is a brief report of a Lecture delivered at South Kensington, London, by Frank R. Cheshire, Esq., F. R. M. S. After referring incidentally to the greatly increased profits now attainable by bee-culture, in consequence of our improved methods of management, Mr. Cheshire remarked:

If we take our stand before a flourishing hive on a fine summer day, we note that the busy workers as they settle, at their return from their excursions in the fields, bear in numerous instances, variously colored pellets on the tibia of their hind legs. The ancients supposed these masses to consist of wax, and even Reaumur fell into this error, referring to these pellets as "*la cire brute.*" We now know perfectly well that they are composed of multitudes of pollen granules which have been gathered by a process we shall hereafter examine, and the use of which we shall presently see, and that wax is not collected but secreted by glands situated beneath the abdomen. Could we follow these workers into the darkness of the hive and here observe their movements, we should find that they walk up the sides of their combs seeking first a cell into which the pollen may be appropriately placed, and they then turn to another, either empty or already devoted to honey, and into that they discharge from their honey-sac the nectar which they have secured from the honey-glands of the blooms visited.

Two questions now present themselves to us: 1. Why do the bees so industriously gather these substances? 2. Why do blooms provide them? It is to the second of these questions that we must devote our most serious attention, but the first, if we would really understand the second, must not be overlooked. If we were to proceed to examine the combs of the hive just referred to, we should find many hundreds of their cells, containing each a tiny, pearl-colored egg about 1-14 of an inch long, and 1-70 of an inch in diameter. These eggs have been deposited by one insect, called, although very inappropriately so, the queen, for she in reality exercises no authority, and when old and fading, is turned out in favor of a more vigorous successor. This mother-bee, for so we may more accurately designate her, is capable of depositing no less than from two to three thousand eggs daily during the breeding season. She inserts her abdomen into a cell, and in two or three seconds withdraws it, when the egg is found adherent to the cell-base. This duty of ovipositing is so onerous that she is excused all care of her numerous progeny, which is attended exclusively by the workers, formerly but falsely called neuters, for they are really females, but with their reproductive organs aborted.

The egg kept warm by heat constantly produced by oxidation of honey in the bodies of the workers, develops within it its germ, and in about three days a very small grub emerges, with but imperfectly formed mouth, no distinguishable eyes, and no organs of locomotion. It is a necessity that food should be brought to it as it lies at the bottom or back of the cell. The workers acting as nurses now sedulously tend it, preparing in their bodies a highly nutritious food resembling thin arrowroot and elaborated from water, honey, and pollen. The two latter we have previously traced to their origin, and it needs only now be said that the first of these is a true force-former, giving to the grub energy for movement, and for the vital processes to be continued within it, while the pollen is a true tissue-former, being rich in nitrogen, and containing potash, phosphorus and sulphur salts. The food is poured over the body of the grub by the nurse, and so liberally that the bantling literally floats in it; one side of the body, however, always remaining dry, so as to be capable of taking in a due supply of air through the eleven spiracles or breathing-holes which may be traced in a line along its side. The imperfect mouth has its work supplemented by an ability to absorb aliment by osmose, through any portion of the skin. Rapid growth is the result, and soon a large, fat, "gentle"-like creature fills two-thirds of the cell.

The ever-watchful workers at this point commence to imprison it by placing over the mouth of its cell a cover, technically called the sealing, which is composed of pollen-grains and wax shreds, and which is pervious to the air, so that the needed amount of oxygen may reach the grub within. The grub also makes preparation for the wonderful transformation which awaits it, by building over itself a silken cocoon. During twelve days developments and alterations are continued, when changes of a most radical nature are effected. The nervous system is completely recast. Instead of a chain of pretty equal ganglionic masses running the length of the digestive tube, nerve-centres are established in the neighborhood of the insertion of the wings and legs to give to these parts the abounding energy they require in the perfect insect. The mouth and eyes have each now considerable ganglia, and the sting is also provided with its source of stimulus. Legs marvellous in form and adaptation, and carrying, cleaning, gathering, feeling, and modelling appliances are evolved. Four beautiful wings are provided, new glands have made their appearance, eyes of great complexity are now possessed, and last but not least, a tongue has presented itself, so wondrously perfect and minutely delicate, that some points in its structure are until now furnishing the microscopist with unsolved if not insolvable problems. In a word, the soft-bodied helpless grub has become a bee. We now see why honey and pollen are gathered. Let us now address ourselves to the second, and inquire why the blooms furnish these substances to their insect visitors.

Blooms are produced by plants in order that seeds may follow, and so the race be continued. Two parts are essential to this reproduction—the anther and the pistil, the latter very generally occupying the central position. The anther is usually a double-celled pouch, the contents of which by segmentation breaks up into a number of perfectly similar parts called pollen-grains, which though minute, are complex in structure. When these are mature the anther splits or dehisces, and the pollen escapes, but it needs in some way to be applied to the termination of the pistil called the stigma. When this application is effected, the pollen-grain absorbs moisture, its interior portion swells, and actually throws out a tube which often grows to a great length in making its way towards the unimpregnated nucleus of the ovule which is situated in the ovary at the base of the pistil. In this nucleus a large cavity filled with protoplasm has developed, called the mother-cell, within which we find the embryonal vesicle to which the contents of the pollen-grain is transferred by the channel of the pollen-tube. This is fertilization, and upon it depends the production of seed, for the new individual plant has its beginnings from this interfusion.

An examination of most blooms will show that the essential organs before referred to, are so placed that an accidental or unaided transfer of pollen to stigma is unlikely, and where this arrangement of parts is not found, it frequently occurs that the anthers ripen and dehisce much before, or not until sometime after, the stigma has so matured as to be ready for pollination. In the former case, as we may observe in the common garden Nasturtium (*Tropæolum majus*), the pollen is all carried away by insects by the time the stigma presents itself, so that if fertilization be effected it must be through the bringing of pollen from other blooms still shedding it. Insects are the means which accomplish this, and to secure their visits the blooms spread them a banquet.

The apple, he remarked, is called by the botanist, a pseudo-syncarpous fruit, because it may be regarded as five fruits gathered into a unit by an envelope formed by a development of the calyx. If an apple be cut across we see five compartments or dissepiments in the core, each one of which should contain pips or seeds. The bloom which preceded the fruit had five stigmas, each one of which communicated with a dissepiment and required an independent fertilization. Bees seeking honey would, by getting their breasts (furnished as they are with abundance of long-webbed hairs) thoroughly dusted with apple pollen, and flitting to a bloom whose stigmata had reached the receptive condition, bring about fertilization. It would, however, frequently happen that three or four of the stigmata only would be pollinated. In this case an apple, though an imperfect one, would be produced. Trees agitated by the winds frequently drop a quantity of their fruits, hence known as windfalls, but the actual cause of this dropping is in by far the largest number of instances defective fertilization.

In an examination made sometime since, of a large number of windfalls, less than 4 per cent. were found to have fallen through injuries traceable to insect pests, while the remainder had received pollination in from one to four dissepiments only.

Fertilization is followed by a determination of nutrition towards the seeds, and the parenchyma of the apple as a protective envelope gathers around them. If, therefore, we cut a defectively fertilized apple across the middle, we find a hollow, shrunken side lying over the unfertilized portion of the core. These facts taken together show conclusively how completely our apple crop is dependent upon insect agency, and amongst these the hive-bee takes the most important place.

In the case of the strawberry, the parts popularly denominated seeds which crowd its surface, are really the fruits technically called achenia, while the strawberry itself is really a succulent development from the flower-stalk. The stigma each of the achenia carries must be fertilized by insects which are attracted by the honey secreted by a ring of glands situate at the base of the strawberry. The anthers are wide set, and as the insect walks around the bloom applying its tongue to the circle of glands, one side of its body is dusted with pollen from the anthers, while the other is applied to the stigmatic faces. In passing from bloom to bloom it frequently reverses the order of its progression, sometimes going around by turning to the right and sometimes to the left; as a result, the pollen gathered upon one side of the body is probably transferred to the stigmas of the next flower visited. As in the case of the apple, so here, fertilization determines nutrition. The placentæ of the fertilized achenia increase enormously, the strawberry grows and matures, but where any of the stigmas escape impregnation, there the strawberry remains without growth, while the other parts are rapidly increasing around it. The examination of a few fruits would be sure to supply examples where in circumscribed spots no progress has been made since the first full expansion of the bloom. The achenia are close set and green, and the flesh of the strawberry is there crude and hard, while the rest is sweet, soft and luscious. Imperfect insect work is again the explanation, bringing before us the remarkable fact that no perfect strawberry can be produced without, perhaps, from three to four hundred independent fertilizations, accomplished, it may be, by the busy hive-bee, which, in filling the niche in which the great Creator has placed it in unselfishly laboring in providing for the wants of its younger sisters, is unconsciously supplying to its master not honey only, but honey and fruit.

The raspberry, although of another type, somewhat resembles the strawberry in the multiplicity of its stigmas (60 or 70 to each bloom), the wide setting of its anthers (about 80 or 90 in number), and its circle of honey-glands. Similarly, too, the insect visitor in seeking nectar passes between the anthers and stigmas, applying its right side to one and its left to the other. Each seed fertilized by these visits is soon surrounded by the luscious envelope which protects the seed from injury, and makes the manufacture of raspberry jam a possibility. These rounded red masses with their enclosed seeds, technically called drupels, are never formed unless fertilization has taken place; neither ripening nor growth being possible in its absence. We see then in an aspect which may be new to many of us, that this wondrous scheme of Nature has correlations which we never could have anticipated; that a large part of the insect world is complementary to plant-life, and plants in turn the sustainers of these insects; and that man, although he can plant his trees, is in no small measure dependent for a crop, upon the assistance of those little laborers, which, by their unconquerable industry, supplied his table with sweets for long ages before he discovered the uses of the sugar-cane.

London, England.

* * *

Practical Farmer.

Marketing Honey.

W. G. PHELPS.

With those who make bee-culture a specialty, the marketing of their honey becomes a matter of much concern. Even those who produce honey in moderate amounts are sometimes puzzled how to dispose of it to the best advantage. With a surplus product of from 1,000 to 6,000 pounds, the difference of a half-cent per pound in price amounts to quite a sum in the aggregate. Style and neatness in preparing either comb or extracted honey for market, has an important bearing upon the results. If taken into market in a soiled state, and dealt out in a slovenly manner, no one need expect remunerative prices. This was well illustrated recently in an adjoining city, where marketing from wagons is still in vogue. One producer offered his one pound sections of honey neatly placed in paper boxes, with fancy labels, being both attractive to the sight and handy for customers to carry to their homes. His honey, hard as are the times, sold readily, while that of another producer, scarcely half a block away, dealt out in broken masses and a clumsy manner, hardly sold at all, even though offered at much cheaper rates.

Style of package has much to do with quick sales nowadays, and this is no less true in selling honey than any other product. With some apiarists the idea prevails that there is an overproduction of honey, as of almost every other production; hence, the depressed prices. Comb honey now sells at from 15 to 16 cents per pound, wholesale, where a year or two since it readily brought 18 and 20 cents. But everything else is correspondingly lower, it must be remembered, and sales are slow in almost every department of trade. It is perhaps nearer the truth to assert that the unsystematic methods of producing and offering honey for sale has much to do with depressing the honey market. The aforementioned incident, of methods of honey selling, will illustrate this point.

But the main object of this article is to suggest and impress upon those who produce honey, the importance of creating a *honey market* for honey. It is no wild assertion to state that scarcely half the American people make use of honey as an article of diet. Its virtues and medicinal qualities are, in fact, but little realized; the fault lies at the door of the producer. The introduction of honey into general use as a staple article of use only need be accomplished to create a regular and continual demand for it. This has been accomplished in various ways. Some bee-keepers have sent small, free samples to each family, with statement of price per pound, and in quantities. Others have circulated small, neat pamphlets (gotten up for the purpose), giving the virtues and advantages of honey *versus* the glucose and similar products.

Again, enterprising apiarists have put up their honey in small, pound and half-pound jelly-glasses, which, neatly labeled, generally meet with quick sales if placed at the country groceries. Comb honey, if produced in small sections, can likewise be offered in the same way, placed in 20-pound cases with panes of glass inserted in one side to show the snowy combs. A little pains on the part of the store-keeper in calling attention to the honey will generally result in disposing of a good quantity of it.

All the methods given above may be combined with success. A little energy and push will accomplish much in creating a home market, even in small villages. When the miserable glucose mixtures, falsely termed "golden drip," etc., are superseded by the daily use of pure honey, then will the many forms of disordered stomachs and kindred complaints (superinduced by the excess of acid in these self-same glucose compounds) cease, and health, wealth and happiness ensue as a consequence.

Galena, Md.

Bienen Zeitung.

Fertilization of Flowers by Bees, etc.

(Translated for the BEE JOURNAL.)

During the past few years zoologists and botanists have devoted much earnest study to the fertilization of plants; book-shelves are weighed down with their records on this subject. Nectaries secreting their liquid sugar only to attract insects, invite them thus to gather it, either to put their pollen in contact with the stigma in the same flower, or to carry this pollen to a distance to fecundate another flower; and thus effect a cross-fertilization. For Sprengel, Darwin, Hildebrand, Delpino, Hermann Muller and J. Lubbock say that this is the reciprocal adaptation between flowers and insects.

"Not only," says Lubbock, "the form and colors, the brilliant shades, the sweet fragrance, and the honey of the flowers have undergone a gradual unfolding through the unconscious selection exercised by the insects; but the arrangement of the colors themselves, the circular bands, the radial lines, the shapes, the size and the location of the petals, the relative position of the stamens, and the pistil are all disposed for the visits of the insects, and in order to insure the chief end of these visits."

The following quotation from Darwin shows how much importance the new school attaches to the part played by insects, and especially hymenoptera, in the fertilization of flowers: "We can suppose that the plant, the nectar of which we have seen increasing slowly in consequence of a continued selection, is a common plant, and that certain insects largely depend upon its nectar for their nourishment. I could prove, by numerous examples, how bees waste as little as they can of their time. I would point to their incisions at the basis of certain flowers to reach their nectar, when, with a little more pains, they could have got in through the top of the corolla. If these parts are kept in remembrance, it becomes easy to believe that, under certain circumstances, individual differences in the curve or the length of the trunk, although too insignificant for our appreciation, may be of use to the bee or any other insect; that some individuals would be more able than others to procure their food, and that the families to which they belong would in consequence obtain a quicker development, and produce more swarms inheriting the same peculiarities. The tubes of the corollas of the common red clover, and of the incarnate clover (*Trifolium pratens* and *T. incarnatum*), do not appear at first sight to differ in length; and yet the domestic bee easily reaches the nectar of the incarnate clover, but not that of the red, which is only visited by the drones; so that whole fields of red clover offer in vain, to the bee, an abundant harvest of the precious nectar. It is very fond of it, for I have often seen, but only in the fall, many bees suck the flowers through holes made by drones at base of tube.

"The difference in the length of the corollas of both species of clover must be very slight; and yet it is sufficient to cause the bees to visit one flower in preference to another. Moreover, it is affirmed that the flowers of the red clover of the second crop being smaller, the bees visit them. Neither do I know the truth of another assertion recently published, that the Ligurian bee, which is ordinarily considered simply as a variety of the domestic bee, and which is often crossed with it, can reach and suck the nectar of red clover. Whatever it may be, it would be a great benefit for the domestic bee in a country where this clover abounds, were its trunk a little longer, differently constructed on the other side, as the fertilization of the plant absolutely depends upon the visit of the bees, it would be much advantaged, should drones become rare, were its corolla shorter or more deeply divided, in order that the bee could suck its flowers; hence, it is easy to understand how it happens that a flower and an insect may slowly, though simultaneously, one following the other, undergo in the most perfect manner a mutual modification and adaptation by the continued preservation of all the individuals presenting slight deviations of structure advantageous for one and the other.

"Here is another instance which will illustrate the complicated relations that bind together plants and animals so distant from each other in nature's scale. Insects, in my garden, never visit the *Lobelia falgens*, an exotic plant, and that, as a consequence, on account of its peculiar conformation, this plant never produces seed. It is absolutely necessary for the fertilization of our orchidæ that they be visited by insects which carry the pollen from one flower to another. After numerous experiments, I have ascertained that the drone is almost indispensable for the fertilization of the pansy (*Viola tricolor*), because the other insects of the bee-family do not visit this flower. I have also ascertained that several species of clover cannot be fertilized without the visits of bees; 20 heads of Holland clover (*Trifolium repens*) for instance, have produced 2,290 seeds, while 20 other heads, which bees could not approach, have not produced one. The drone alone visits red clover, because the other bees cannot reach the nectar. It is said that Phalence can fecundate red clover; but I must doubt it, because the weight of their bodies is not sufficient to press down the petals. We can, therefore, consider it as very probable that if drones were to disappear or to become very rare in England, both pansy and red clover would also become very rare or disappear entirely."

Summing up the doctrine, Mr. Sachs writes: "Insects are the unwitting and unconscious agents of pollenization; they only visit flowers for the nectar which is their food, and which is only distilled for this purpose." Gorging themselves with pollen, they fly from flower to flower, rolling themselves in the corollas to gather the fertilizing dust which, fastening itself to their hair, so covers and disguises them sometimes as to make it difficult to recognize them.

Says Huber: "I have seen drones try in vain to reach the honey contained in bean-flowers; the large size of their heads and of their waists hindered them from entering far enough into the long tubes of these flowers; they would then turn straight to the calyx, and pierce it as well as the tube, with the scaly part of their trunk, which, penetrating the centre of the flower, would reach the nectaries, and bring out the honey with which they were filled. At the same time, other drones less in size, or with trunks longer, would enter the corolla, penetrate into the tube, and reach the honey without any trouble."

Du Petit Thonars has also observed that the drones and the "*abeille solitaire*" (*Xylocopa violacea*) thus violently gather the nectar of the "*Linaire*" (*Linaria vulgaris*), of the "*gueole de loup*" (*Anthirrinum majus*), of the "*Belle de miet*" (*Mirabilis jalapa*). Kirby has often seen that the long honey receptacles of the aniolies (*Aquilegia vulgaris*) were perforated. Other observations have followed. Many other entomologists and botanists have watched the drones at work piercing the calyxes or the corollas of many plants. We have often observed them ourselves; and it is indeed a marvellous sight to witness their excitement, when they find themselves confronting, for instance, a closed flower like the consonde (*symphytum officinale*); it is only after they have assured themselves that they cannot obtain a direct entrance to the nectaries that they resort to the piercing process, and, the opening once made, bees crowd after them for their share of the honey—the crumbs of the table—for which they insert their tongues into the holes made for them by the noisy drones."—KURCHEL.

* * *

Exchange.

Experiments — Bloom Fertilization.

Prof. Beal, of the Michigan Agricultural College, has been conducting experiments for six years with humble-bees and red clover. The sixth experiment during 1882, he describes as follows: Two fine bunches of the first clover crop, apparently alike, were both covered with mosquito netting. No insects were seen about either, except what are mentioned below. On June 29 a bumble-bee was placed inside of one netting and seen to work on the flowers; July 10 two more were introduced and seen to work; on the 12th more were put in and observed. On July 31, fifty ripe heads were selected from each plant and the seeds carefully counted. The fifty heads on the plants where bees were excluded yielded 25 seeds. The fifty heads on the plant where the bumble-bees were inserted under the muslin and seen to work, yielded 92 seeds. This is nearly four times as many as were produced by heads where the bees were excluded. In all instances, the heads were seen to be unopened when they were covered with muslin or paper sacks. In the last experiment as well as in the others, perhaps the bees did not visit all the flowers. Insects, even in the most favorable seasons, are not always to be relied on to transfer pollen enough to fertilize all the pistils.

Prof. W. W. Tracy has found in several seasons, where he has raised Hubbard squashes on a large scale, that he increased his crop of fruit quite largely by artificially transferring pollen with his own hand, every day or two, during flowering. To see how the uncovered heads of red clover from different plants varied in the number of seeds produced, I selected fifty heads from five plants near each other, where each had plenty of room. This was the second crop of clover. Fifty heads from each plant yielded as follows: 1,260, 1,275, 1,460, 1,485, 1,820 seeds respectively. In another place, fifty heads yielded 2,290 seeds, or nearly twice as many as plant number one in the lots just above noticed. It is a fair conclusion that bumble-bees are of considerable value in fertilizing the flowers of red clover.

From the British Bee Journal.

Visits of Insects to Flowers.

Lecture by J. T. Powell, Esq.

The lecturer showed what an important work was carried on by insects in the fertilization of flowers. The subject of the mutual relations of insects and flowers was, he said, a comparatively new one, and it was only within the last quarter of a century that due attention had been given to it. He explained, by means of diagrams, the structure of flowers, and went on to deal with their fertilization by means of pollen. Cross-fertilization was effected in two ways, either by the agency of the wind or insects. Plants which were cross-fertilized, as a rule, produced better than those which were self-fertilized. The relative position of the stamen and pistil in some flowers rendered self-fertilization impossible, and in these cases if it were not for cross-fertilization the species would die out. Wind-fertilized flowers are usually deficient in brightness; those fertilized by insects are generally brilliant. Some were of the opinion that insects had no sense of smell, but, however that might be—and it was a subject on which they knew very little—he, for his part, believed that insects were attracted by odors. The great attraction which flowers had for insects, was the sweet juice in the nectaries known as honey.

The lecturer proceeded to show that in passing from flower to flower the insect conveyed pollen on its feet, and this pollen was rubbed off. While the bee or other insect was suiting its own purpose by taking the honey, it was also transferring the fertilizing pollen. To female insects, particularly bees, which were the chief means of conveying the pollen, the pollen itself was an attraction, and their instruments for brushing it up and carrying it away had often been described. He explained the *modus operandi* of bees in visiting certain flowers, giving minute information as to the transference of the pollen. In some instances, he showed that it was necessary before fertilization could take place, that the bee should literally force itself into the flower. This was the case with the snapdragon flower. In other cases not only was the strength of the insect a factor, but the weight also. He then explained the construction of the sweet pea, and showed that, but for the weight of the bee having a mechanical effect in bearing down a portion of the flower, fertilization could not take place. Hive and humble-bees were the usual visitors to the leguminous family, and without the intervention of the bees, we should get no fruit from the kidney beans. It had been found that, by keeping bees away from kidney beans, the flowers did not set.

Referring to the orchids in the diagrams, he said there were 18 ways in which they could be fertilized; but Darwin said there were only 6 ways in which they could be fertilized with advantage. The fertilization of the flowers of the orchid family would always be associated with the name of Darwin. Night moths visited some of the orchids, which could not be fertilized except by insects with very long tongues. The pollen-masses stuck to them, and were thus conveyed to other flowers. Mr. Darwin found a moth with a pollen-mass sticking in its eye; and an entomologist caught a moth at Dover and sent it to him (the lecturer) with over 20 pollen-masses sticking to its tongue, so that it must have been pretty much embarrrassed thereby, as it was not able to coil its tongue up in the usual manner. Garden sage sometimes produced flowers, which were rather large, bright blue in color, and thin-lipped. In this family the older flowers were fertilized from the younger ones.

Mr. Powell then went on to show that the constancy of insects is of considerable importance in fertilization, that was to say, whether they stuck to the same sort of flowers in the same journey. In the hot July of 1881, he watched the insects at Cromer, and one result of his investigation was that bees, as a rule, were very constant, and butterflies very inconstant. The hive-bee was the most constant of bees. He found that sometimes the inconstancy was only seeming, as the bee would leave a flower and go to another simply for the purpose of moistening its throat, and would then return. Some flowers were entirely fertilized by nocturnal moths, among them being the red valerian. This flower was fertilized by a moth with a tongue an inch and a quarter long. Only a few British flowers were adapted to fertilization by wasps, which had short tongues. All the flowers so fertilized were very shallow and dull-colored, and the wasps were left by other insects in undisturbed possession of those which they could conveniently visit.

For the American Bee Journal.

Defending the Rights of Apiarists.

G. W. DEMAREE.

The suit for damages against Mr. S. I. Freeborn, of Ithaca, Wis., having been made public, I wish to endorse Mr. Heddon's suggestions as to the propriety of organizing a mutual defense society. But I see no necessity of creating a "sinking fund" to aid those whose rights may be assailed. It will be sufficient to have a general manager who can act as secretary and treasurer. And when a bee-keeper needs support in making defense of rights common to the bee-keeping interest, a "call" can be made on the members for the necessary funds to meet the emergency. Mr. T. G. Newman is the proper person to hold the important position.

If Mr. Newman would indicate through the columns of his paper, his readiness to assume the leadership of such organization, and would "open books" for membership, I am sure that he would meet with hearty responses. Of course it will be some burden to Mr. Newman, but he has already done a great deal of work for the "glory of the thing," and doubtless can stand a little more. It is proper here to say that it is natural that a prudent person joining such society would want to know the extent of his liability.

I would suggest that each person, when sending in his name, indicate what sum he would be willing to pay at a single "call," say one or two dollars, or any other sum, and when the average is taken, let that be the highest amount that any member would be liable for at any one "call."

I believe that it would have been better to have kept this ridiculous damage suit in the back grounds. If it gets into the newspapers it may do a worse work for the interest of bee-culture than the "scientific pleasantry" of Prof. Wiley has inflicted. The first impulse of the bee-keeper would be to look with contempt on such a "plea" as the plaintiff in the damage suit against Mr. Freeborn must make, yea, and swear to, in order to satisfy a court that he has a "cause of action" against the defendant. But the marvellous ignorance and stupidity that is abroad concerning the habits and instincts of the honey-bee makes the matter more serious than funny. Think of submitting your rights as a bee-keeper, to a man whose features become the personification of aversion at the sight of a honey-bee, and who will strike most wickedly at a tired, inoffensive bee that may chance to light on his clothes! Would it be a difficult matter to persuade such a man that bees will pursue and sting sheep in a pasture?

The rights of bee-keepers ought to, and must be maintained right at the start. We cannot afford to yield an inch of ground. Once admit that bees are likely to injure stock in the fields, and that is the end of bee-culture. Let Mr. Freeborn fail to make a successful defense, and that will insure more trouble in the near future.

I have no doubt but every bee-keeper will feel it his duty, yea a privilege, to cast in his mite, when necessary to preserve our common rights.

Christiansburg,♂ Ky.

For the American Bee Journal.

Importance of Defense Organizations

FRANK M'NAY.

I hope that every reader of the BEE JOURNAL has read the two articles on page 346. I have no more interest in this case than every bee-keeper should have, and I had had no acquaintance with Mr. Freeborn (although we are located only 40 miles apart) until I heard of his trouble last fall, when I went to see him, and enjoyed a very pleasant visit with him.

Mr. Freeborn is one of the pioneer bee-keepers of Wisconsin, and has given instructions to many who are now among our best apiarists; and were it not for poor health, I doubt not that he would now honor the occupation of bee-keeping by giving this case such a defense as would teach all that bees instead of a detriment are of great service to agriculture.

I think the plan proposed by Mr. Heddon is a good one, and he deserves thanks for his able article on this subjec. We need some one to take the management of organizing at once, and Mr. Heddon has named Mr. Newman. I think that the choice will be unanimous, and I hope that he will use his best efforts to organize a bee-keepers' defense organization. I would suggest that Mr. Newman publish a call for signers, with the understanding that the managers shall have the right to assess the members for necessary funds, as soon as the organization is large enough to have the required strength. There are many reasons for forming an organization. I think that if Mr. Newman had had 1,000 or more bee-keepers to defend him, he could have taught Prof. Wiley the folly of telling "scientific lies."

Mauston,⊙ Wis.

For the American Bee Journal.

Expecting a Bountiful Harvest, etc.

EUGENE SECOR.

The season has opened propitiously in northern Iowa. It is now only about six weeks since the bees were removed from their prison-house or cellars, and now they are storing honey in supers, "laying out" and swarming. From the latter part of April the honey-flow has been constant and abundant. Beginning with the willow and poplar and ending with fruit-bloom, there has been a succession of honey-flowers that made glad the hearts of enthusiastic bee-keepers. One will be surprised at the number of honey-producing trees, shrubs and plants here when he begins to take note of them. White clover is now coming on nicely, and if it yields nectar as did the flowers preceding it, we shall expect a bountiful surplus.

If our pitchers are right side up this summer, I believe that they will be filled. My observation is that too many bee-keepers let a part, and sometimes the best part, of the honey season go by before they put on the boxes, even when their bees are strong enough to go right into them. We cannot wait until July and then get a remarkable crop.

AN ADVISORY BOARD SUGGESTED.

In regard to the suggestions offered on page 346, by Mr. Heddon, I would say that in my opinion there ought to be an advisory board of three to disburse that defense fund; for "in a multitude of counsels there is wisdom." It would give better satisfaction to the subscribers to the fund, and relieve the secretary from some responsibility. Before aiding any bee-keeper, the board ought to have a voice in saying what attorneys should be employed to defend him, as every one-horse,cross-road pettifogger is not capable of managing such cases; nor is it every case that might arise that ought to be defended—only those wherein are involved general principles.

This board should use its discretion in those matters, and if some of our ablest and best-known bee-keepers were that advisory board, we should feel secure; not that we lack confidence in the Editor of the BEE JOURNAL, but we think he would feel better to have some good company to help bear the responsibility. My dollar is ready when wanted.

Forest City,♂ Iowa, June 8, 1885.

For the American Bee Journal.

Defense Organizations and Funds.

S. H. MALLORY.

I think that the suggestion offered by Mr. Heddon, on page 346, in regard to organizing and raising a defense fund, is a good one. It will do good in various ways, not only in helping bee-keepers to defend their rights when trespassed upon, without heavy individual outlay, but if black-mailers and Shylocks know that we are organized and able to defend ourselves, they will fight shy of us.

We have tested the value of organization here in Michigan several times, first, in what was called "the slide-gate swindle," and next, in the "drive well suits." In both cases the agents of so-called patentees were scattered all over the State collecting royalty from farmers and others with impunity. Individuals were threatened with a lawsuit if they refused to pay on demand, and rather than stand the chances of being sued in the United States court, perhaps a hundred miles away, they would pay the royalty; and thousands of dollars were collected in that way. Finally, the Grange Organization raised a defense fund and proposed to fight Mr. Patent-right-man. After that no more royalty was collected, and they soon got all the law they wanted, and the whole thing collapsed, thereby saving thousands of dollars by being organized and showing a bold front.

If all bee-keepers who wish to come into this mutual protection society, would contribute, say one dollar, to the fund and place it in the hands of one who could be implicitly trusted, and who had the energy and wisdom to use it so as to do the fraternity the most good, I believe it would be an act of wisdom on the part of bee-keepers to do so. Each contributor should have a receipt from the treasurer stating the purpose for which the money was contributed, and if thought best the surplus, if any remained after this impending suit is over, could be returned to the contributors by the society so voting, or otherwise disposing of it. At any rate let us raise the fund, and help defend this fellow-bee-keeper who is in trouble; thereby, perhaps, preventing future annoyance to others of the fraternity.

Decatur,♀ Mich.

For the American Bee Journal.

Cause of Bee-Diarrhea, etc.

GEO. B. PETERS.

I have noticed from time to time a discussion of the theory advanced by Mr. James Heddon, of the cause of bee diarrhea among bees in winter. Whilst we know a man's faith by his works, we cannot know one's faith without his works. I only know Mr. Heddon by his zeal and devotion to the interest of bee-keeping, by his frank and candid manner in stating his convictions, and by his many useful suggestions to advance apiculture. But I think that the ardor of his nature has led him into an egregious error as to the cause of bee-diarrhea. It is conceded by everybody that a thousand negatives will not disprove one positive fact. I state now, on the honor of an old bee-keeper, to that class of men engaged as such, that I have kept bees for over 60 years, and I have always watched with great interest any deviation from a normal condition of my colonies in winter as well as in the honey season, and I have never yet seen a case of that disease among bees. This country is the one notorious for the pabulum of bee-life, and many seasons remarkable for the honey harvest.

In this country there is more pollen or bee-bread gathered than in any other country under the sun, I suppose; and here no one pretends to take his colonies from their summer stands, and few even provide a shelter of boards. I have seen colonies live through the severest winters with large crevices in the hives and without any shelter, go through all right and swarm early in March. I have taken a single colony, and by subdivision increased it to 32 by the middle of August, and in another month I could have doubled it; but then the latest would have required feeding. This is an evidence of the great amount of bee-bread collected; and the natural habitudes of the bee not being interrupted, our colonies go through the winter safe and free from disease.

It is true an adventurer comes down here once in awhile, buys out an apiary, extracts all the honey, even up to frost, and relying upon artificial feeding, by his neglect of the office, loses many colonies. But to leave the brood-chamber unmolested with all its stores, ninety-nine in every hundred will go through the winter sound and in good condition. Then the cause is as clear as the noon-day sun, of that fatal malady among bees in the North; that cause was clearly set forth by one of the correspondents of the Bee Journal for May 27—to-wit, long winters and no flights. Here with us we scarcely ever have a cold snap lasting over two weeks at a time. Our bees take a flight at least once a fortnight, and generally in half that time, and having a plentiful supply of their natural food, viz., honey, and I think bee-bread as a relish, they come out strong, without spring dwindling, and swarm in April, and sometimes in March.

I do not think that Mr. Heddon will surrender, as he is a little obstinate in his peculiar views, which, by the way, judging from his works, is a trait that gives him his individuality, and, therefore, he will not agree with us who oppose his views; but there is one ground, I think, where we will all meet, that is, in defense of our Wisconsin bee-keeper, in that outrageous suit brought against him through malicious selfishness. I second the motion to nominate Mr. T. G. Newman as the secretary and treasurer of a defense association, and I will remit, when deemed necessary—let it be one dollar apiece or five, I am there. We should defend the friend of the bee-industry in any part of our vast country where he is wronged and opposed without cause and clearly with "malice aforethought."

Peters,o+ Ark.

Western Plowman.

Timely Hints for June.

C. H. DIBBERN.

June is the busiest month in the year for the bees and the apiarist. During this month, and the first half of the next, we should reap the golden harvest for which we have waited so patiently during the stormy months of winter, and for which we have worked all the spring. As the season is very cold and backward, the main honey season will probably occur between June 15 and July 15.

As only strong colonies can be depended upon, it is very important to have every hive full of workers at the right time. I am well aware that this is not an easy matter, in this changeable climate, where the thermometer is liable to drop 40° in a single day. For this reason I am not much in favor of spreading the brood, and placing empty worker comb in the centre, for the queen to fill with eggs, till settled warm weather can be depended upon. The important point is to have the bees just at the right time, and to attain this the apiarist must use a great deal of judgment.

Some sections should be placed on the hives with the appearance of the first white clover blossoms. Those hives, so arranged that a few can be put on at a time, are better than where all are put on at once. If too much room is given it will greatly reduce the temperature of the hive, and bees will be slow to commence in the supers. Sections should have either pieces of nice white comb or thin foundation fastened in them, to start the bees to build straight combs in the sections. If large sections are used, they should also be divided by separators of tin or wood.

See to it that your hives are level, the way the sections are placed, or the combs will not be built straight. Place more sections on as fast as the bees commence working in them; remove them as fast as the few cells are capped, and if the honey-flow continues, put on empty sections in their place. Care should be taken not to have too many partly-filled sections, when the honey season is over; better crowd the bees into fewer sections, and get nearly all finished.

This, too, is the swarming month, and will keep the bee-keeper busy, and give him something to think about. Of course hives should be at hand, all ready for the bees. If comb or foundation is not used in the brood-frames, then a sharp edge must be given them for a comb guide. I think it pays to use full sheets of foundation in the brood-frames, as nice, straight combs are thus secured, and all drone-comb is thus avoided.

When a swarm issues wait quietly till the bees settle on some branch or other convenient place. If any are afraid of getting stung, have a bee-veil; and if you have a pair of rubber gloves use them, too, if you wish. Put your hive at a convenient place, spread a sheet in front of it, see that the frames are evenly spaced, and close up the hive and shake the bees in front, when they will readily enter the hive. Should they cluster on the outside, take a small stick and scrape them down. As soon as about all have gone in, put them to place and mark the date of the swarm on the hive, and also mark the hive of the colony that has swarmed. In about 6 to 8 days the old hive is almost certain to send out a second swarm; this should be returned after cutting out all the remaining queen-cells. A better plan, however, is to place the first swarm on the stand occupied by the old colony at the time the first swarm issues, removing the surplus arrangement to the new colony, and removing the colony to a new location. In this way the old colony will lose nearly all working bees, and will not be so likely to swarm again; but if it should, they ought to be returned as before described.

Comb honey, as fast as taken off, should be stored in a dry, warm place, where it is not exposed to bees and flies. It will not do to put it into the cellar, as it attracts dampness, and its beautiful appearance is soon spoiled, and it is liable to sour and spoil. It is only by having our honey in the nicest possible shape that we can hope to meet all competition in the market.

Milan,⊸ Ills.

For the American Bee Journal.

Do Bees Really Annoy Sheep?

D. MILLARD.

It was with much interest that I read the articles from Messrs. Freeborn and Heddon, on page 346, relative to bees doing damage to sheep while pasturing. I, as well as nearly all land-owners in this vicinity, keep both bees and sheep, and I have long known that sheep, by their extremely close biting, would nearly if not quite ruin the growth of white clover, for bee-pasturage; but that bees should annoy and drive sheep from their pasture is news to me. In the first place, bees never attack anything while gathering honey; and in the second place, sheep are so well protected by nature, even their very eyes being imbedded in wool, as to make them indifferent to the attack of even *Apis dorsata*.

Nevertheless sheep have their much-dreaded enemies. Mr. Morrell, in the *American Shepherd*, says: "Sheep, during the summer months, are subjected to extreme annoyance from flies, principally the gad-fly, and several varieties of worm or maggot flies. The insect passing under the name of fly, though the most troublesome in August, attacks the sheep from May to September. The gad-fly deposits its eggs on the margin of the sheep's notrils, these are soon hatched, and the larvæ immediately find their way up the interior of the nose till they arrive at the frontal *sinus*, a cavity situated between the layers of the frontal bone and of considerable size in the sheep. Here they remain until the following spring, when they burrow quite into the earth for a short season; then become winged insects, and ready to enter upon their career of torment so ably gone through with by their predecessors."

The above may seem rather "sheepish" for a bee-argument, but I quote it to show the possibility of one's being mistaken in regard to sheep being tormented by bees. A little careful observation will convince any candid mind that there is no trouble between the bees and the sheep; for, who has not observed, during hot weather (and this is the time when the flowers secrete their nectar), as the sun climbs the eastern horizon and casts its lurid glare over the fields, the sheep leave their pasture, and with their noses to the earth, seek shelter frequently under the sides of logs, in fence-corners, etc., while the busy bee takes possession of the field and improves each shining hour; and in turn, as the sun recedes, the bee repairs to its hum in the hive, while the sheep again come out and improve the twilight and early evening hours to supply their natural wants.

No, fellow-bee-keepers, the trouble is not between the bees and the sheep, but between the sheep and their owners. who fail to provide cool, dark sheds with water convenient for their sheep during the heat of the day, which results in the death of thousands annually during the late winter and spring months, with the disease known as "grub in the head."

In the above I have taken middle ground, as the bees' side of the question—its usefulness as an agent in fertilizing flowers, etc., has already been so plainly shown to the reading public, by scientific investigators of the last few years, that for any one to doubt would be simply to show ignorance.

Mendon, ♀ Mich.

SELECTIONS FROM OUR LETTER BOX

Good Season Anticipated.—C. H. Dibbern, Milan, ⊸ Ills., on June 4, 1885, says:

Bees are doing finely now, and I look forward to a good season in this section.

White Clover in Abundance.—J. W. Sanders, Le Grand, ⊙ Iowa, on June 8, 1885, says:

The season has been quite late here, and from the best I can learn, a number of bee-keepers have lost heavily by spring dwindling. But bee-keepers' faces begin to brighten now, as the white clover is commencing to bloom, and as we have a large quantity of it.

Colonies Strong, but No Swarms.—Wm. Anderson, Sherman, ⊸ Mo., on June 8, 1885, writes thus:

My bees are doing well, except that they do not swarm. The hives are full of bees—so full that they cannot get in, I notice. A shower came up and the bees were unable to go into the hives, as they were so full. Although I have had 5 swarms this season, the bees hang on the sides of the hives in great bunches; some of them would make a good colony if they were in a hive and put to work. There is plenty of honey coming, and the prospect seems good. White clover is in abundance. Swarming is the only drawback now.

Working Night and Day.—Geo. W. Riker, Russell, ♀ Iowa, on June 8, 1885, writes:

My bees work day and night for seven days in a week, and I am unable to find any of them idle or resting, hence, I conclude that they never sleep. Perhaps some of the more experienced can tell me how I may be able to catch a bee asleep.

Removing Pollen from Combs.—6—John Crawford, (45), Pleasant, ⊸ Ind., on June 6, 1885, gives his method as follows:

I notice on page 340 a query on removing pollen from combs. I have been thinking and experimenting for sometime on that point, and I have tried giving the combs to colonies, but the bees would very seldom remove enough to amount to anything. I never tried melting the combs, but I have no doubt that would be successful, but rather expensive. After experimenting considerably, I finally set the combs upright in water, and let them stay in it for 5 or 6 days, when the pollen becomes very soft, and then by attaching a hose to a force pump with a sprinkling nozzle (an ordinary nozzle would damage some of the cells), every particle of the pollen that has been in the water will be washed right out (if it is not covered with honey and capped over). I have put such combs in the centre of the brood-chamber, and had them filled with eggs in 24 hours, and I do not think that any one could tell that they ever had pollen in them. A convention was held in Madison, Ind., on May 28, and I was intending to take over a frame with eggs in, that I had washed the pollen out of, but just at that time I had to attend to the bees. I should have stated that I extracted the water before putting the combs into the hive.

Protecting Bee-Keepers.—Chas. H. Green, Berlin, ⊙ Wis., on June 10, 1885, says:

In response to the suggestions made by Mr. Heddon, on page 346, in regard to a defense organization for the purpose of protecting bee-keepers against injustice at law, I would say that I have for some time thought a society of this kind would sooner or later be needed, and the time has now come. I am glad that Mr. Heddon has made a start, and I would second the nomination of Mr. T. G. Newman as secretary and treasurer; and I would suggest that Mr. James Heddon and Dr. C. C. Miller assist him in forming and managing the affair. My fee is ready. I hope that every bee-keeper in the West will respond with his dollar.

Bees Molesting Farm-Stock.—John Rey, East Saginaw, ⊙ Mich., on June 5, 1885, writes as follows:

I notice on page 346, that Mr. Freeborn, of Ithaca, Wis., has gotten into some trouble on account of his bees going into his neighbor's pasture and driving out the sheep. I have never known or heard that bees could drive sheep or cattle; but if this is the case, bees can do more than build combs and store honey for man. I do not see what harm the bees in question did to the neighbor's clover field, only to sip the God-given sweets which would otherwise have been lost. Mr. James Heddon has made a good move in the direction of the bee-keeper's interest. Mr. Editor, you can put me down for $1. I think that every bee-keeper can afford at least $1 toward a good cause, remembering that "in union there is strength." I am sure that every bee-keeper who likes his bees, and respects his fellow-bee-keepers, will not let this case go by unnoticed; and I think that every one will come to the front with his dollar in hand when it is needed.

The Duty of the Hour.—James B. Mason, Mechanic Falls, ♀ Maine, on June 9, 1885, writes as follows:

While looking over the last Bee Journal, I noticed the article from James Heddon, and while reading it I was thrilled with joy, and exclaimed "Just the thing!" I have long thought of some plan that would more closely bind bee-keepers together, not crush down any one, as Mrs. Lizzie Cotton says the bee-associations are a band of men banded together to crush her down just because she is a woman, but to protect bee-keepers against the unjust charges that are being heaped upon them. I believe that the course mapped out by Mr. Heddon is a move in the right direction, and that it will tend to draw bee-keepers together, and I think it is the duty of every bee-keeper in the land to rally to the front at once. It seems to me that every bee-keeper in the country can see that it is not only his privilege, but his duty to at once take hold of this matter, and not only himself, but work hard to induce others to do the same. This is a matter that calls for immediate action, and let us arise and say, "United we stand;" and our rights must be respected as well as those in other occupations. Mr. Heddon has led off by proposing for manager our esteemed and tried friend, Mr. T. G. Newman, who has ever proved himself fearless and ready to stand up for the right against the wrong, and I heartly second the motion, believing that he will be "the right man in the right place." My dollar is ready.

Law Against Keeping Bees, etc.—Chas. Follett, Osage, ♂ Iowa, on June 9, 1885, writes as follows:

I have read the articles on page 346, in reference to the suit involving bees. I have never known bees to molest anything while they were out at work, but as a rule, they attend strictly to their own work. If there is any law against keeping bees, I think that it is time that such law is made manifest. As there are so many interested in bee-culture, it will cost but a small amount for each bee-keeper to assist in defending the suit in question. I fail to see that there is any case at all; however, I am ready and willing to contribute my part, and then see how we will come out. We surely can procure just as good lawyers as the plaintiff has, and soon settle the matter. The past winter was a hard one on bees in this section. I lost 50 colonies out of 130. I think that the loss in this county is about ¾; some have lost all. My bees are now in good condition, and are preparing for the honey harvest. Everything looks favorable.

Bees Packed in Chaff.—Dr. J. S. McAllister, Columbus, ⊸ Nebr., on June 6, 1885, writes:

Spring was late here as well as elsewhere. Being short of help last summer and fall, my 20 colonies were not packed with chaff as usual, but left to the mercy of the cold, and consequently I lost 14 of the 20, and the other 6 were very weak in the spring. They were all pure Italians, and very heavy, with 12 to 16 frames, of the American size, to the hive, being crowded with bees. About 40 other colonies in hives of the same style, but not quite so well packed with chaff (and on the summer stands, the same as the other 20), wintered nicely, and are doing much better. I have been so busy at my profession that my bees have been sadly neglected.

Method of Transferring for Ladies and Beginners.—Mrs. E. J. Baxter, Nauvoo, ⊸ Ills., on May 27, 1885, writes as follows:

I have just read what Mr. O. Clute says about transferring bees, on page 330; and though I am not one of those whom he addresses, I wish to state that we have transferred a number of colonies by the "driving plan," and that we have succeeded pretty well each time. The transferring was done when the weather was warm enough to allow the brood to hatch well; therefore it did not die and decay. However, in the early spring months we prefer the old-fashioned method, as we had to spend more time in feeding our "driven" colonies than we would have spent, had we transferred combs and all. The "driving plan" is a good one for ladies, as it requires but little handling of tools; it is a good one for beginners, as it requires but few directions.

Local Convention Directory.

1885. *Time and place of Meeting.*

June 19.—Willamette Valley, at La Fayette, Oreg.
E. J. Hadley, Sec.

July 15.—Central Illinois, at Bloomington, Ills.
Wm. B. Lawrence, Sec.

Dec. 8—10.—Michigan State, at Detroit, Mich.
H. D. Cutting, Sec., Clinton, Mich.

☞ In order to have this table complete, Secretaries are requested to forward full particulars of time and place of future meetings.—Ed.

◆

Honey and Beeswax Market.

Office of the American Bee Journal,
Monday, 10 a. m., June 15, 1885.

The following are the latest quotations for honey and beeswax received up to this hour:

CHICAGO.

HONEY.—Demand is light and receipts are also light. Prices range from 10@15c. for best grades of comb honey, and for extracted, 5@7c.

BEESWAX—22@25c.

R. A. Burnett, 161 South Water St.

BOSTON.

HONEY.—We quote the following prices: Fancy white comb in 1-lb. sections, 16@18c.; the same in 2-lb. sections, 15@16c; fancy white California 2-lbs., 12@14c. Extracted weak, 6@8c. Sales very slow.

BEESWAX.—32 cts. per lb.

Blake & Ripley, 57 Chatham Street.

NEW YORK.

HONEY—We quote: Fancy white clover in 1-lb sections, 14@15c; fair to good white clover in 1-lb. sections, 12@13c; fancy white clover in 2-lb. sections, 13@14c; fair to good white clover in 2-lb. sections, 11@12c; fancy buckwheat in 1-lb. sections, 9@10c; fancy buckwheat in 2-lb. sections, 7@8c. Ordinary grades, no sale. Extracted white clover, 7@8c; extracted buckwheat, 6@6½c.

BEESWAX—Prime yellow, 26@29c.

McCaul & Hildreth Bros., 34 Hudson St.

CINCINNATI.

HONEY—There is no new feature in the market. Our regular customers only are buyers at present. There is almost no outside demand, and low figures are no inducement. We quote extracted honey from 5@8c on arrival, and comb at 9@12c.

BEESWAX—Good demand and arrivals plentiful. We quote 24@28c for good yellow on arrival.

C. F. Muth, Freeman & Central Ave.

SAN FRANCISCO.

HONEY—Market very quiet. Choice extracted is the only kind which buyers at present care to purchase in a wholesale way, and there is little of this sort offering. No new crop honey has yet arrived; none expected for several weeks. White to extra white comb, 8@9c; dark to good, 4@7c; extracted, choice to extra white, 4¾@5¼c; amber colored, 4¼@4¾c.

BEESWAX—Quotable at 25@62c—wholesale.

O. B. Smith & Co., 423 Front Street.

CLEVELAND.

HONEY—Since our last report there has been a little better demand for honey, and some sales have been made at 13½@14c for best white honey in 1-lb. sections. Second quality is still very dull at 12@13c. Extracted is not salable at any price in our market.

BEESWAX.—Scarce at 28@30.

A. C. Kendel, 115 Ontario Street.

KANSAS CITY.

HONEY—Demand is light and prices weak. We quote choice ½-lb. sections, 15@16c; 1-lb., 13@14c; 2-lb., 10@11c. Extracted, 5@6c, according to quality. Half-pound sections of comb honey are in demand.

BEESWAX—25@30c.

Clemons, Cloon & Co., cor. 4th & Walnut.

◆

☞ **Sample Copies** of the Bee Journal will be sent free upon application. Any one intending to get up a club can have sample copies sent to the persons they desire to interview by sending the names to this office.

◆

☞ We want one number each of the Bee Journal of August, 1866—February, 1867. Any one having them to spare will please send a Postal Card. We will pay 50 cents for one copy of each of the two numbers.

Special Notices.

☞ For two subscribers for the Weekly Bee Journal (or 8 for the Monthly) for one year, we will present a Pocket Dictionary, and send it by mail, postpaid.

◆

☞ If your wrapper-label reads June 85, please remember that your subscription runs out with this month. Renew at once, so as not to lose any numbers.

◆

☞ Our rates for two or more copies of the book, "Bees and Honey," may be found on the Book List on the second page of this paper. Also wholesale rates on all books where they are purchased "to sell again."

◆

The Post Office Clerk at Canajoharie, N. Y., has been arrested for robbing the mails at that place. Those who have been sending money to A. C. Nellis & Co., for seeds, and getting no returns therefor, will now understand the reason why.

◆

Rev. W. F. Clarke has recently removed to Guelph, Ont., to which place his mail should now be directed, instead of Speedside, Ont., his former address.

◆

☞ **Back Numbers.**—We can supply a few more of the back numbers to new subscribers. If any want them, they must be sent for soon, before they are all gone.

◆

☞ **I am overwhelmed** with orders for bees, and cannot receive any more, except orders for Queens.

James Heddon, Dowagiac, Mich.

◆

☞ **California Honey Plants.**—Mr. W. W. Bliss, Duarte, Los Angeles Co., Calif., has sent us a Photograph of seven of the principal honey plants of California, viz: Wild Hoarhound, Wild Buckwheat, Hybrid Sage (two specimens), White Sage, Black Sage, and Wild Alfalfa. The size of the photograph is 8x10 inches, and he will supply it at $1.00 each.

◆

To Correspondents.—It would save us much trouble, if all would be particular to give their P. O. address and name, when writing to this office. We have several letters (some inclosing money) that have no name; many others having no Post-Office, County or State. Also, if you live near one post-office and get your mail at another, be sure to give the address we have on our list.

◆

☞ To create Honey Markets in every village, town and city, wide-awake honey producers should get the Leaflets "Why Eat Honey" (only 50 cents per 100), or else the pamphlets on "Honey as Food and Medicine," and scatter them plentifully, and the result will be a demand for all of their crops at remunerative prices. "Honey as Food and Medicine" are sold at the following prices:

Single copy, 5 cts.; per doz., **40** cts.; per hundred, **$2.50.** Five hundred will be sent postpaid for **$10.00;** or **1,000** for **$15,00.** On orders of **100** or more, we will print, if desired, on the cover-page, "Presented by," etc. (giving the name and address of the bee-keeper who scatters them).

How to Propagate and Grow Fruit, by Charles A. Green, contains over 50 illustrations and two colored fruit plates. A 64-page book, price **25** cents. For sale at this office.

Previous to the publication of this book, there was no work on the propagation of small and large fruits which could be purchased for less than $3.00, therefore the masses have been without a guide in this important branch of fruit-growing, and know very little about propagating. The price of the book places it within the reach of all. Further than this, the book gives the latest and most approved methods found in no other publication.

This book tells how to propagate Strawberries, black raspberries, red raspberries, blackberries, currants, gooseberries, grapes, quince, peach, apricot, plum, cherry, pear and apple; also general rules for propagation, with illustrations showing how to bud, how to graft, how to propagate from layers, stools, inarching, with full instructions for grafting the grape. It tells how to lay out a garden or fruit farm—how to plant, cultivate, trim, etc.

◆

☞ All who intend to be systematic in their work in the apiary, should get a copy of the Apiary Register and commence to use it. The prices are as follows:

For 50 colonies (120 pages)	$1 00
" 100 colonies (220 pages)	1 25
" 200 colonies (420 pages)	1 50

The larger ones can be used for a few colonies, give room for an increase of numbers, and still keep the record all together in one book, and are therefore the most desirable.

◆

☞ **Preserve your papers** for reference. If you have not got a Binder we will mail you one for 75 cents, or you can have one free if you will send us 3 new yearly subscriptions for the Bee Journal.

Advertisements.

BEES for SALE
after July 1st. Send for terms.
H. R. BOARDMAN, E. Townsend, Huron Co. Ohio.
24Atf

100 **NEW BEE HIVES,** all complete, for sale at 70 cents per hive. Also **200** hives that have had bees in; they have combs in. I will sell at the same price. Having lost my bees, I must sell the hives. Also 8-frame Langstroth hives.
P. HARTL, Beaver Dam, Dodge Co., Wis.
24A2t

CHOICE ITALIAN
Bees and Queens

I **CAN FURNISH 2 FULL COLONIES** of Choice Italian Bees in 8-frame Langstroth Hives at **$10** each. They are bred up to the **HIGHEST STANDARD** of excellence for all the best points. They are gentle and **GOOD WORKERS.**

Also some **Purely Tested ITALIAN QUEENS** for sale at $3 each.

ALFRED H. NEWMAN,
923 West Madison Street, - CHICAGO, ILL.

New and Enlarged Edition
OF
BEES and HONEY,
OR THE
Management of an Apiary for Pleasure and Profit; by
THOMAS G. NEWMAN.
Editor of the Weekly Bee Journal.
925 West Madison Street, Chicago, Ill.

It contains 220 profusely illustrated pages, is "fully up with the times" in all the improvements and inventions in this rapidly developing pursuit, and presents the apiarist with everything that can aid in the successful management of the Honey-Bee, and at the same time produce the most honey in its best and most attractive condition.

PRICE—Bound in cloth, $1.00; in paper covers, 75 cents, postpaid.

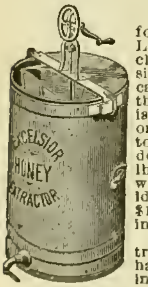
☞ **A Liberal Discount to Dealers, by the Dozen or Hundred.**

☞ The Monthly BEE JOURNAL for a year and the bound book, "Bees and Honey," will be sent for $1.25.

Vandervort Foundation Mill.
6 Inch, Price, $25.00.
It makes the finest extra thin Foundation for comb honey. For Sale by
ALFRED H. NEWMAN.
923 West Madison Street, - CHICAGO, ILL.

DOOLITTLE.—For prices of his QUEENS see page 349 of BEE JOURNAL, or send for Circular. G. M. DOOLITTLE, Borodino, N. Y.
11E15t

EXCELSIOR
HONEY EXTRACTORS



In answer to frequent inquiries for Extractors carrying 3 and 4 Langstroth frames, I have concluded to adopt these two new sizes. The 3 frame basket is in a can of the same size and style as the 2 frame. The 4 frame basket is in the larger can, with the cone or metal standard for the basket to revolve upon, leaving room underneath the basket for 75 or 80 lbs. of honey. It will be complete, with covers, and in every way identical, except in size, with the $16.00 Extractor, 13x20, which is intended for any size of frame.

Excepting with the $8.00 Extractors, all the different styles have strainers over the canal leading to the honey gate, and movable sides in the Comb Baskets. The $8.00 and $10.00 Extractors have no covers.

For 2 American frames,	13x13 inches	$8 00
For 2 Langstroth "	10x18 "	8 00
For 3 " "	10x18 "	10 00
For 4 " "	10x18 "	14 00
For 2 frames of any size,	13x20 "	12 00
For 3 " "	13x20	12 00
For 4 " "	13x20 "	16 00

ALFRED H. NEWMAN,
923 West Madison St., CHICAGO, ILL.

Dadant's Foundation Factory, wholesale and retail. See Advertisement in another column.

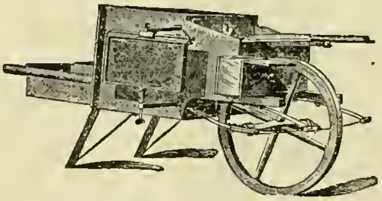
IMPORTED QUEENS!
Read my Circular before ordering any Imported Queens from Europe. Address,
23Atf HENRY ALLEY, Wenham, Mass.

Bee Hives
AND
SECTIONS.
NEW SHOP AND NEW MACHINERY !!
The Largest Manufactory of Bee Hives Sections, etc., in the World!
Our capacity now is a **CAR-LOAD OF GOODS DAILY.**

NOTICE.—In enlarging our factory last year, we were put behind with our work so that by spring, were obliged to return many orders. Now we have ample stock ahead and can fill all orders promptly.

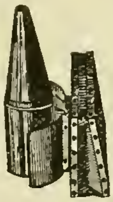
Write for Price-List for 1885.
G. B. LEWIS & CO.,
13ABtf WATERTOWN, WIS.

SYSTEMATIC AND CONVENIENT.



DAVIS' PATENT HONEY CARRIAGE,
REVOLVING COMB-HANGER,
Tool Box and Recording Desk Combined.
Price, complete, only.......... $18.00.
For sale by **ALFRED H. NEWMAN,**
923 West Madison Street, - CHICAGO, ILL.

HELP for working people. Send 10 cents postage, and we will mail you *free*, a royal, valuable sample box of goods that will put you in the way of making more money in a few days than you ever thought possible at any business. Capital not required. You can live at home and work in spare time only, or all the time. All of both sexes, of all ages, grandly successful. 50 cents to $5 easily earned every evening. That all who want work may test the business, we make this unparalleled offer: To all who are not well satisfied we will send $1 to pay for the trouble of writing us. Full particulars, directions, etc., sent free. Immense pay absolutely sure for all who start at once. Don't delay. Address STINSON & CO.
51A1y Portland, Maine.



BINGHAM SMOKERS.
I can sell the above Smokers at MANUFACTURERS' PRICES, by mail or express, at wholesale or retail. All the latest improvements, including THE CONQUEROR, and THE DOCTOR.
Send for my 32-page Illustrated Catalogue of Bee-Keepers' Supplies of every description.
ALFRED H. NEWMAN,
923 W. Madison, CHICAGO, ILL.

1879. ——**ITALIAN**—— 1885.
QUEENS!
FOR ITALIAN QUEENS in their purity, and that cannot be excelled, **Comb Foundation and Supplies** generally, send for Circular.
12 UNTESTED QUEENS FOR $11.00.
15A12t **T. S. HALL, Kirby's Creek, Ala.**

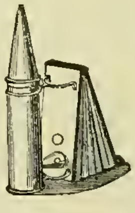
Dadant's Foundation Factory, wholesale and retail. See Advertisement in another column.

ELECTROTYPES
Of Engravings used in the Bee Journal for sale at 25 cents per square inch—no single cut sold for less than 50c. **THOMAS G. NEWMAN,**
925 West Madison Street Chicago, Ill.

SECTIONS.
Job Lot—Cheap!
I HAVE received a Job Lot of 25,000 One-Piece Sections with square groove, which I will close out at $4.00 per 1,000, or $2.50 for 500. The size is: top and bottom, 6 inches; sides, 5¼ inch; width of section, 1¾ inches—narrow tops.
ALFRED H. NEWMAN,
923 West Madison Street, - CHICAGO, ILL.

BEE-KEEPERS' GUIDE;
Or, MANUAL OF THE APIARY.
12,000 SOLD SINCE 1876.
13th Thousand Just Out!
10th Thousand Sold in Just Four Months
3,000 Sold Since May, 1883.
More than 50 pages, and more than 50 fine illustrations were added in the 8th edition. The whole work has been thoroughly revised, and contains the very latest in respect to bee-keeping. It is certainly the fullest and most scientific work treating of bees in the World. Price, by mail, **$1 25.** Liberal discount to dealers and to clubs.
A. J. COOK, Author and Publisher,
1C1y Agricultural College, Mich.

☞ For sale also at the Office of the BEE JOURNAL, at wholesale or retail.



Bee-keepers' Supplies,
Standard Langstroth,
Quinby Standing-Frame,
And all other kinds of **Hives,**
MADE TO ORDER,
Quinby Smoker a specialty.
I shall supply anything you need in the Apiary
Send for Illustrated Price List.
W. E. CLARK, successor to L. C. Root,
7A1y ORISKANY, Oneida County, N. Y.

Twenty-Five Hundred Bee-Keepers
have in use **TEN-THOUSAND of ALLEY'S DRONE AND QUEEN TRAPS.**

ALL who have tested them pronounce them PERFECT. Mr. Dadant is the only one who ever found fault with them, and as he never used or saw one, we can excuse him.

"I would not take $5 each for the 2 dozen Traps I bought of you.—ELI HARVEY, Sibley, Ills."

Sample of the latest improved, by mail, **65** cts. Send for Circular. Address,
23A2t **HENRY ALLEY, Wenham, Mass.**

Vandervort Comb Fdn. Mills,
Send for Samples & Reduced Price-List.
• ABtf J. VANDERVORT, Laceyville, Pa.

DISCOUNT
——ON——
WIRE NAILS!
UNTIL further notice, I can make a discount of **25** per cent. from my Catalogue prices on **Wire Nails,** owing to a decline in the market.
ALFRED H. NEWMAN,
923 West Madison Street, - CHICAGO, ILL.

Dadant's Foundation Factory, wholesale and retail. See Advertisement in another column.

W. Z. HUTCHINSON,
Rogersville, Genesee Co., Mich.,
can furnish just as neat, white, smooth and perfect, dovetailed, white poplar sections as there are made. Send for sample and prices. Untested Italian Queens, $1.00 each. Tested Queens, $2.00 each. Make Money Orders payable at Flint. 16Atf

WEEKLY EDITION
OF THE
AMERICAN
ESTABLISHED IN 1861
OLDEST BEE PAPER IN AMERICA
BEE JOURNAL
PUBLISHED BY
THOMAS G. NEWMAN,
EDITOR AND PROPRIETOR,
925 WEST MADISON-STREET, CHICAGO, ILL.
Weekly, $2 a year; Monthly, 50 cents.

Vol. XXI. June 24, 1885. No. 25.

APICULTURAL NEWS ITEMS.

EDITORIAL AND SELECTED.

The Kansas Bee-Keeper has removed its location from Columbus, Kans., to Liberal, Barton County, Mo.

The Rev. L. L. Langstroth has so far recovered from the attack of paralysis sustained last February, as to have the comfortable use of his limbs. His general health is also improving. His many friends will be glad to hear of this improvement.

The best honey weather is when it is warm and moist—when the air is full of electricity and a storm approaching. We have had so much of that kind of weather lately, that we may confidently expect a good honey harvest. That is what, not only the bees but apiarists generally, are longing for.

Let it be a National Union.—Messrs. Dadant & Son make the following as suggestions: "We are willing to put our shoulder to the wheel for a National Bee-Keepers' Union, and to pay our share, whether it may be $1.00 or $25.00. We suggest that a special request to unite in this Union, be sent to all the bee-papers and their subscribers. We must have a National Union or none."

This suggestion is "good and timely," and we publicly invite the editors of all bee-papers to unite in this noble work, and would cheerfully vote for the following as the officers of the temporary organization, if these editors will co-operate with the Union:

President—A. I. Root, Medina, Ohio.
First Vice-President—A. J. King, New York.
Second Vice-President—A. G. Hill, Kendallville, Ind.
Third Vice-President—Silas M. Locke, Wenham, Mass.
Fourth Vice-President—H. Scovell, Liberal, Mo.

This would unite all the bee-papers in the Union, and we sincerely hope that it may induce all of them to work together for the general good. As soon as the organization is completed, we will cheerfully relinquish our position to any one the Union may choose, but the BEE JOURNAL will give its unswerving support to the Union and all its officers.

If Canadians, who are governed by other laws, find such an organization necessary or desirable, the editor and subscribers of the Canadian paper are all cordially invited to co-operate with this Union.

Bee-Keepers' Union.—We have had many enthusiastic letters endorsing the plan of organization—and some suggestions about amendments to the Constitution submitted last week. We have incorporated the suggestions, and publish it again on the next page. The chief alterations are, that as a fund is needed at once for the Freeborn case, an entrance fee of *one dollar* should be paid, so as to make the fund available at once. Now we think the organization is ready to commence work, and we are ready to enroll members as soon as they send in the membership and entrance fees—$1.25.

Throwing Dirt.—When the Canadian bee-paper started into life, each of the editors of the bee-periodicals in the United States gave it a good notice, bidding it welcome.

The AMERICAN BEE JOURNAL objected to its name because of the danger of mixing things up, but added: "We have none but the kindest feelings toward the *new* paper; but its name should be changed."

The editor of the Canadian paper then remarked, on page 50: "We are determined to work harmoniously with all other bee-periodicals." With this assurance, and *desiring* such a result, we concluded not to criticise anything in it, so as to cement "the bonds of peace," all around. But imagine our surprise, after reading the editor's further assurance in these words: "We know no jealousy, and strive to carry out our motto, 'the greatest possible good, to the greatest possible number,'" to find, in the same paper, much that was "offensively personal" by his correspondents, of which the following is a sample. One says:

"If you 'run out' all other American bee-papers and occupy the land, all right. Newman, of the A. B. J., and Root, of *Gleanings*, have both been in the harness so long that they are probably looking for a place to rest."

Does our Canadian neighbor call that living up to its motto? It looks more like declaring "*a war of extermination*"—and if that comes, there will be "lots of fun" for "the boys," as that writer puts it. But that kind of "fun" is not what should engage the attention of the bee-papers when there are so many subjects of vital importance before us. We fully endorse a *kind* but stinging rebuke administered by Bro. Root in the last issue of *Gleanings* in these words:

"When new bee-papers start up (and doubtless they will start, as they have started) will they please to bear in mind that it is neither "courtesy" nor "policy" to commence "pecking" at old-established papers? Suppose you should attend an evening party, and commence right out, before all, abusing some one who is present; what would be thought of you, if you persisted in dragging your personal likes and dislikes into the presence of a well-bred company? You would probably be severely let alone, and you might possibly be shown the door, in some circles. Well, whatever appears in a public paper is, in one sense, before the people, and in a place where everybody is bound, by all rules of etiquette, to behave himself as becomes a gentleman. I have sometimes thought that the opinion seems to have obtained a lodging in some hearts, that a man might build up himself or his paper, by saying *sneering* and *insulting* things of those who had acquired at least a tolerably fair standing, by years of tolerably fair service."

Now, let us have no more of such *nonsense*, but let the new papers *get down to work* for the good of the pursuit of bee-keeping, if that is the object of their existence. They can never build themselves up by trying to run others down! Never!!

Foolish Jealousy.—We dislike to have any controversy with other bee-papers, but it seems to be necessary to straighten out an entanglement which some of them have gotten into.

A quarter of a Century ago, when the AMERICAN BEE JOURNAL was started, it was *the only* publication devoted to bees and honey in America—now there are six others, besides some 15 or 20 which have ceased to exist!

In 1881 when the Weekly BEE JOURNAL was started, there was not another bee-paper published weekly in the World—now there are three (one of them being 6 months old, and the other 3 months), and like all little children, they have their "squabbles" about small matters. The facts are as follows:

The Kansas paper was a monthly until last September, when it ceased to appear until the middle of December, when it issued the three numbers to complete the year, in that month, so as to begin the year 1885 *on time*, and then continued the weekly issue.

Just at that time Mr. Allen Pringle *wrote* the article, which we re-publish in this issue of the AMERICAN BEE JOURNAL, from the *Popular Science Monthly*, which stated that the AMERICAN BEE JOURNAL was the only weekly devoted to bee-culture in the United States. This article was in the hands of the publishers of the *Science Monthly* "several months." When it was "put in type" a proof was sent to Mr. Pringle, and he added the sentence about the Canadian bee-paper then about to be published. He knew nothing about the Kansas weekly and said nothing about it, for it did not exist when the article was *written*! Had the matter stopped there, no trouble would have occurred, in all probability. But the Canadian bee-paper in May re-published the article, and failed to give credit to the *Popular Science Monthly*, as it should have done, leaving its readers (and particularly its Kansas cotemporary) to think that the article was just then written for the Canadian bee-paper. Thereupon the Kansas weekly administered a rebuke to Mr. Pringle, for presuming to write about the apicultural literature of the United States without knowing that the Kansas paper was being published weekly.

Mr. Allen Pringle replied in our Canadian cotemporary that as the AMERICAN BEE JOURNAL has for years claimed to be "the only Weekly bee-paper in the World," it *also* must have been ignorant of the existence of one in Kansas! We did *rightfully* claim until last December, that it was "the *only* Weekly bee-paper in the World;" but we promptly noted the birth of the Kansas weekly, in an editorial on Dec. 24, 1884, and of the Canadian weekly on April 15, 1885. Could more be reasonably required?

The cause of the whole "muddle" was the re-publication of that article without credit by our Canadian cotemporary.

We have none but the kindest feelings toward all other bee-papers (both monthly and weekly), and desire, above all things, that "without strife or vain-glory," all will devote their whole energies to the advancement of the pursuit of apiculture, and work together harmoniously for that end.

The Premium List of the Nebraska State Fair, at Lincoln, Sept. 11-18, 1885, is received. The premiums in the Apiarian Department amount to $120—$25 each being offered for the best crate of comb honey and the best colony of bees. M. L. Trester, of Lincoln, is the Superintendent of this Dept.

QUERIES

WITH

REPLIES by Prominent Apiarists.

Putting on Sections.

Query, No. 77.—When is the proper time to put surplus boxes on the hive of a new colony?—L. C. W.

G. W. Demaree says: "I put on my section-cases as soon in the season as it can be done with safety to the brood. I think it is a mistake to put it off till the honey harvest is upon the bees. They will sometimes waste time looking through the surplus department before going to work."

Dr. C. C. Miller answers thus: "As soon as the queen has commenced laying."

Dr. G. L. Tinker remarks as follows: "The proper time is immediately, using a queen-excluder if the colony is hived on a few frames. In such a case care should be taken to give free upward ventilation for two days, lest the bees become too crowded and desert the hive."

Prof. A. J. Cook replies thus: "As soon as hived on foundation."

G. M. Doolittle answers thus: "At the time of hiving, using so few combs, or foundation below so that they will be compelled to go to work in the sections at once."

James Heddon replies as follows: "If the swarm is large, and you have full sheets of foundation in the brood-frames, you will often do well to place one case of sections (and they should also be filled with foundation) right on the hive when the swarm is run in; otherwise, about 48 hours afterward, if you use full sheets of foundation below, and 6 to 8 days after hiving, if you hive them on empty brood-frames, or those with guides only."

W. Z. Hutchinson says: "My advice would be to put on the boxes at once."

Messrs. Dadant & Son advise thus: "When the hive is nearly full with brood and honey, and the honey season is likely to continue."

Getting Early Swarms.

Query, No. 78.—If an early swarm is desired from a parent colony, would there be a gain or loss by putting on surplus boxes?—L. C. W.

Dr. C. C. Miller says: "Giving surplus room may retard swarming."

Dr. G. L. Tinker answers thus: "Heat is one of the elements in forcing early swarms. Putting on the sections before the hive is crowded with bees retards swarming, as it does also brood-rearing. Later on, preparations for swarming may be begun, when the placing on of the sections would not delay it."

Prof. A. J. Cook answers as follows: "There would be a loss. Keep them close, and stimulate them by feeding."

G. M. Doolittle replies as follows: "There would be a little loss in time of the issuing of the swarm, but a gain in honey which will more than overbalance that."

James Heddon says: "There would be a gain, as a rule, if you count the surplus honey worth anything; in some instances a gain any way."

W. Z. Hutchinson answers thus: "If the object is a gain of bees, do not put on the boxes."

G. W. Demaree answers as follows: "As a general rule, I have found it the best to put on the surplus boxes at the proper time. I have sustained more loss by trying to force swarms, by crowding the bees, than by giving them too much room."

Utilizing Empty Brood-Combs.

Query, No. 79.—I have lost nearly all my bees, and I have nearly 500 Langstroth brood-frames filled with nice, straight worker combs built on full sheets of foundation, mostly wired. With 10 or 12 colonies to start with, how shall I manage to use all of these combs that can be used this season?—Cresco, Iowa.

Dr. G. L. Tinker says: "The best plan to use so many combs and increase the few colonies, would be to first get them strong, then tier up the hives with the empty combs. When more or less filled with honey, purchase queens and divide until all the combs are utilized."

Prof. A. J. Cook remarks thus: "With such combs one can, by using care, increase very fast, and thus soon make the loss good. Add them to the brood-frames as fast as possible, and get all the brood you can."

G. M. Doolittle answers thus: "Form small colonies as early in the season as you can do so without materially injuring the 10 or 12 left, by the plan I gave on page 277, giving them the frames of comb to care for, and they will build up to full colonies by fall."

Jas. Heddon says: "1. Buy some cheap colonies; 'cheap,' because in worthless or box-hives. Drive the bees into your combs by the plan of 'modern transferring.' Aim to produce only extracted honey, and use a set of the combs on each hive for that purpose. 2. If you cannot buy any colonies, divide those you have as fast as you can. Make those 12 queens use as many of the combs as they will, and get more queens reared to lay in them, as fast as you can. While thus preparing to use them, keep them in a cool, airy place, and so they do not touch each other within at least ½ of an inch."

W. Z. Hutchinson remarks thus: "Buy queens and 'make up' colonies."

Messrs. Dadant & Son answer as follows: "Divide the bees and feed them up till they are strong, and divide again. A good plan would be to buy dollar-queens for the swarms."

G. W. Demaree says: "My plan would be to use no more of them than I could employ profitably, and hang the rest of them up in a light room, and preserve them for future use."

Dr. C. C. Miller replies as follows: "Build up the 10 or 12 colonies strong, and keep them strong. Draw from them frames of brood with adhering bees, say 2 frames at a time from each colony, to form nuclei, replacing these with empty combs. Then repeat this as often as the strength of the colonies permits, and build up nuclei into strong colonies, which in their turn will yield aid for other nuclei."

CONSTITUTION OF

The National Bee-Keepers' Union.

Article I.—This organization shall be known as the "National Bee-Keepers' Union," and shall meet annually, or as often as necessity may require.

Article II.—Its object shall be to protect the interests of bee-keepers, and to defend their rights.

Article III.—The officers of this Union shall consist of a President, five Vice-Presidents, and a General Manager (who shall also be the Secretary and Treasurer), whose duties shall be those usually performed by such officers. They shall be elected by ballot, and hold their several offices for one year or until their successors are elected and installed; blank ballots for this purpose to be mailed to every member by the General Manager.

Article IV.—The officers shall constitute an Advisory Board, which shall determine what action shall be taken by this Union, upon the application of any bee-keepers for defense, and cause such extra assessments to be made upon all the members as may become necessary for their defense.

Article V.—Any person may become a member by paying to the General Manager an Entrance Fee of ONE DOLLAR to the Defense Fund, and an annual fee of 25 cents, for which he shall receive a printed receipt making him a member of this Union, entitled to all its rights and benefits. The annual fee shall be due on the first day of July in each year, and MUST be paid within 30 days in order to retain membership in this Union.

Article VI.—Donations of any amount may be made at any time to the Defense Fund, in addition to the entrance and membership fees and the regular assessments made upon the members by the Advisory Board.

Article VII.—The Defense Fund shall be used for no other purpose than to defend and protect bee keepers in their rights, after such cases are approved by the Advisory Board, and shall only be subjected to Drafts regularly made in writing by the Advisory Board.

Article VIII.—The annual fees paid by the members shall become a general fund, from which shall be paid the legitimate expenses of this Union, such as printing, postage, clerk-hire, etc.

Article IX.—Meetings of this Union shall be held at such times and places as shall be designated by the Advisory Board, or upon the written requisition of ten members.

Article X.—This constitution may be amended by a majority vote of all the members at any time.

CORRESPONDENCE.

Explanatory.—The figures BEFORE the names indicate the number of years that the person has kept bees. Those AFTER, show the number of colonies the writer had in the previous spring and fall, or fall and spring, as the time of the year may require.

This mark ☉ indicates that the apiarist is located near the centre of the State named: ♂ north of the centre; ♀ south; O+ east; +O west; and this ♂ northeast; ⊸ northwest; ⊸ southeast; and ♀ southwest of the centre of the State mentioned.

For the American Bee Journal.

The Sheep-Bees Lawsuit, etc.

S. I. FREEBORN.

Since the publication of my article on page 346—relating to the bee and sheep suit—many want to know the particulars; some suggest that perhaps I have quarreled with my neighbor. They should not be expected to expend any great amount of sympathy until they are assured that they are not wasting it on one who is unworthy, quarrelsome, or a bad neighbor.

Perhaps the readers of the BEE JOURNAL will bear with me if I give a little personal history. My practical experience with bees dates back 30 years. I have lived in this place 28 years, and brought 20 colonies with me when I came. I have never had less than 20 colonies but once, and then they decreased from 230 to 19. So much for the box-hive period.

My stock for several years past has run from 200 to 300 colonies. I was the pioneer in the business in this county—that is, as a specialist—and was always referred to as the bee-man, the honey-man, etc. Many thought that I had a good thing in bees, and they have exaggerated as to my profits. Most of my neighbors have, at one time or another, tried their skill at bee-keeping, but with few exceptions they have quit in disgust. A great many think that I am in some way to blame for their failures, and say that I monopolize the business. They credit me with greater attainments than I credit myself with, for I have not been very successful in wintering bees, and I was ashamed to make so poor a report of wintering as I was obliged to give for the past winter.

In relation to this suit between my neighbor, Mr. A. J. Powers, the plaintiff, and myself, the defendant, I will say that I have had no quarrel with him, except in this matter, and I have fought shy of this suit, and told him that I did not wish to waste any money on it. I offered to leave it to refferecs, telling him that we might get some disinterested parties and let them investigate and decide for us. But he would not; he said that he wanted it decided whether I or he owned the farm on which he lives. If I owned it he would move off and let me take possession; if he owned it he wanted the use of it. This is no new thing as far as theory or threats are concerned; it has been threatened for years, and more suits of the same nature are talked of, if this one goes to please the plaintiff.

I do not want the readers of the BEE JOURNAL to infer from the foregoing that I am poor, friendless or forlorn, and in a heathen land; for we have good people here, and a fair share of intelligence. I have many friends, and I can give as reference many of the best men in our county. If any one wishes for confirmation of what I have written, I am not afraid to have them write to Mr. Powers, himself, asking him whether I am a man of peace and truth.

In conclusion I will say that I have supposed that Mr. Powers has had some instigators, and was encouraged to commence this suit. His lawyers have told him that bees are stock, and that we would be obliged to restrain them as such. They know full well that if we are obliged to do this, it will be the death-blow to bee-keeping. I had resolved to fight this matter to the best of my ability, and I told my opponents that they could rest assured that it would be well contested through the courts of the State, if necessary. I feel that it is a case that every bee-keeper in America is interested in, and I think it not begging to ask them to assist in the defense, as Mr. Heddon suggests in his plan, which meets my entire approbation, and would, had I no suit of the kind on hand.

DISASTROUS RESULTS OF THE WINTER.

The past winter has proved one of great disaster and loss to the bee-keepers of this county; probably one-half of the bees are dead, and those that are left make a poor average. My stock last fall consisted of three lots aggregating 340 colonies, 100 at my "Home Apiary," 150 at the "Sextonville Apiary" (about 5 miles south), and 90 at the "Neptune Apiary" (2 miles north). The colonies of the "Home" and "Sextonville" apiaries were chaff-packed, and the "Neptune" lot were wintered in a cellar. Of the "Home" lot, 18 poor ones are left; of the "Sextonville," 60 fair ones remain; and of the "Neptune" lot, 66 are alive, and I think can be made strong for basswood harvest.

This would seem to indicate that cellar wintering is preferable to chaff-packing; it has certainly proved so here during the past winter. In preparing those for cellar-wintering, we removed the honey-boards and placed burlap covers over the frames. Those to be chaff packed were covered in the same way, excepting a few which we covered with quilts. I think that the difference was in favor of the thicker quilts.

Having but 140 weak colonies left, and about 5,000 frames of comb, I have recently obtained 40 more colonies. My force now is 180. I am particular to give the number, as Dr. C. C. Miller and others desire to know what we are doing, and I, too, like the idea. It is easy to explain the reason for the great mortality of bees during the past winter, for our bees stored no surplus honey after basswood bloom, and were light in bees; the winter was one of extreme severity, and was followed by a spring remarkable for cold and windy weather, and far advanced before weak colonies could build up.

Ithaca, ♀ Wis.

Popular Science Monthly.

Apiculture.

ALLEN PRINOLE.

Among the recent industries of rapid growth in this country, bee-culture stands prominent. Of course, as a homely art, bee-keeping is no modern industry, being as old as history; but in its scientific developments, it is of recent growth. In these times, when science is properly taking its place at the helm in all departments of human industry and activity, it is not strange that it is promptly assuming the guidance of bee-culture. This is a utilitarian as well as scientific age; and this is why bee-culture is being so rapidly developed, for its extraordinary growth is only in the ratio of its utility. Though known to commerce for 2,500 years, hitherto it has been followed and known, in this country at least, principally as a local industry. But bee-culture, from the soundest economic considerations, ought undoubtedly to become a great national industry fostered and protected by the State. Apiculture is naturally a part of, and closely allied with, agriculture, inasmuch as the nectar gathered by the one is immediately derived from the same fields and forests that yield the abundant ingatherings of the other. Indeed, the bulk of the honey crop of this country (which is, in round numbers, about 100,000,000 pounds annually) comes from the bee-keeping which is in connection, more or less, with farming.

But this is not the principal reason why bee-culture must take rank as an important national industry. The postulate is fully warranted by the following fact or facts: When the agriculturist takes his grain to market, he takes with it more or less of the fertility of the soil; when he takes his stock and dairy products to the market, he does the same thing, only, perhaps, in a less degree. But, when he takes his honey to market, he does nothing of this kind—he takes none of the fertile elements of his soil along with it. When the skilled apiarist, guided by science, so controls, directs, and manipulates his bees that they gather the rich nectar in tons from a given area, representing hundreds and even thousands of dollars, he impoverishes neither his own land nor that of his neighbor; he simply secures that which, if not gathered, "wastes its sweetness on the desert air." Likewise, when a country exports its surplus grain or stock, it also inevitably parts with more or less of its fundamental agricultural resources; but its exported honey surplus represents no corresponding impoverishment of soil. It would therefore seem clear that, from economic considerations alone, bee-culture ought to and must take its place among the most successful and important national industries.

There is also an æsthetic and hygienic side to apiculture, though in this practical and materialistic age mere sentiment must be subordinate to utility. But the more advanced scientific bee-keeping of to-day may, without assuming much license or latitude, be called "one of the fine arts." To the cultured and æsthetic devotee of art proper in the recesses of his own studio, who has never practically studied the nature and habits of the wonderful little honey-bee, and manipulated it from day to day, this claim for our beloved art may excite a smile. Nevertheless, the apiarian devotee who has studied, observed, and handled the marvelous denizens of his hives, for twenty years, will affirm his art, no less than the flavor of the nectar it produces, to be indeed fine. Ladies of high culture and refined tastes are engaged (and successfully too) in bee-culture with all the enthusiasm which is naturally inspired by a congenial and ennobling pursuit; and this is the best proof of our contention as to its æsthetic status. Being withal a healthful occupation, bee-culture invitingly offers itself to those in delicate health and not strong enough for hard physical labor. In numerous instances such persons, by engaging in this pursuit, have not only procured liberal means of subsistence, but have also recovered lost health and strength. The capital required is comparatively small, while the average return for skilled exertion is large. Hardly any other legitimate business yields so large a return in dollars and cents for the amount invested and the work bestowed. True, bee-keeping has its formidable obstacles and serious drawbacks; but these, while sometimes troublesome to the scientific apiarist, are disastrous mostly to the unskillful or negligent, or the mere neophyte. And, even though the cargo of industry sink, not much treasure in money or labor is carried to the bottom, while a very little capital added to the valuable lesson of failure soon sets the redoubtable amateur on his feet again.

The honey-bee—which belongs to the general branch of the animal kingdom called Articulates, and to the class Insecta, and to the sub-class Hexapoda, and to the order Hymenoptera, and the family Apidæ, and genus Apis, and species Apis mellifica—is one of the most intensely interesting studies in the whole domain of natural history. When the immortal Darwin had the scientific zeal and patience to study the apparent insignificant earth-worm for forty long years, leaving a field untouched for thirty years for the purpose of studying and observing the habits of these despised creatures, how comparatively easy and pleasant to study the honey-bee, which is so much more useful and beautiful! The fact that the honey-bee is so much more serviceable to man than many others of the lower creatures whose nature and habits are equally wonderful, as the ant, for instance, invests it with a double interest to us. Insects which are pests, no matter how marvelous in structure and habit, we cannot study with that intense pleasure and interest we can those that yield so much to our physical as well as mental gratification.

Of the species, Apis mellifica there are many varieties—the principal of which are the Ligurian or Italian bee; the German or black bee; the Syrian bee; the Cyprian bee; the yellow, Egyptian bee; the amiable, Carniolan bee, of Africa; the superbly beautiful Dalmatian bee; the Smyrnian bee, very popular in Austria; and the stingless bees of South America.

In this country (i. e., Canada and the United States) we have principally the German and Italian bees; but within the past five years the Syrian and Cyprian varieties have been extensively imported into this country. As the genus Apis is not indigenous to this continent, all now existing here have been introduced from the Eastern Hemisphere—first the black and Ligurian races, and latterly the Eastern varieties.

Each of the varieties in this country (vying for "survival" as the "fittest") has its distinguishing characteristics. So far, however, the Italians seem to possess more good points and desirable qualities than any of the other races, and hence are the most numerous and popular among advanced apiarists. Their chief distinguishing qualities are superior amiability, industry, and what may be called patriotism, or indomitable energy in defending their homes against invaders, such as robber-bees and the "bee-moth"—against both of which they are quite invincible. While different strains of this variety vary considerably in color, they are in general distinguished by three beautiful yellow bands across the abdomen. They also have longer tongues than the German bees, by which they are enabled to sip the nectar from places inaccessible to their less favored competitors. A. J. Cook, Entomological Professor in the Michigan Agricultural College, who has done very much to advance scientific bee-culture in the United States, says on this point: "The tongue of the black worker, I have found, by repeated dissections and comparisons, made both by myself and by my pupils, is shorter than that of the Italian worker, and generally less hairy." In confirmation of this fact, established by Prof. Cook's dissections, I have frequently noticed my Italian bees, during a scarcity of honey from other sources, working upon the second bloom of the common red clover (not the Trifolium pratense, which the black bee can readily work upon), when the Germans were doing nothing on it, the flower tubes being too long for their tongues.

The black bees (or rather, German, for in point of fact they are not black in color, but a gray-black) have some desirable qualities, though they are now being rapidly superseded by the Italians. They produce nicer comb honey than the Italians, or perhaps any other race. The proverbial whiteness and finish of their comb are due mostly to the extra capping.

For the Syrian races of bees, leading apiarists claim some superior qualities. I am inclined to think that the Syrian queens (Palestine strain) crossed with the Italian drones, will presently prove to be our very best bees—combining more good points than any other variety. Doubtless, however, the bee of the future will be greatly superior to anything we have at present. For purposes of experimentation in developing such, we have now in America several of the best varieties in existence under domestication. By judicious crossing, in accordance with the well-known laws of variation and heredity, such a result is quite certain. The vast improvement made in this way among our domestic animals, within less than half a century, fully warrants the conclusion that, in the evolution of things so palpable everywhere, we may, in the case of our bees, subsidize and utilize the same ever-acting law of progress.

Following the Syrians, and genealogically closely allied to them, we have the Cyprians, though not yet widely diffused. They resemble the Italians, of which they are supposed to be the progenitors. The Cyprian bees have some good points, and one very bad point. They are famous for their fecundity, but equally infamous for their ferocity, being maliciously expert in using very pointed stings. The variety (unless in this inspiriting western atmosphere it requires more amiability) is not likely to become popular, notwithstanding the marvelous fecundity of the queens. It may be possible, by crossing with some bee of good disposition, to mollify their bad tempers and retain their good qualities.

Of the remaining varieties of the honey-bee, and sub-varieties, including hybrids, little is practically known in this country, with the exception of one or two strains of the latter. The "hybrids," resulting from a cross between the Italian queen and the German drone, are well known in Canada and the United States, and, next to the pure Germans and Italians, are perhaps most numerous. These hybrids have excellent qualities; they make superb comb; are active and energetic; and I have observed that they stand the rigor of our Canadian winters much better than the pure Italians; but they are much less amiable.

A properly constituted colony of bees consists of three different kinds, viz., an impregnated queen (the fully developed female); drones (the males); and workers undeveloped females). The queen (absurdly called the "king-bee" from the time of Aristotle, and even from Virgil down to Huber) is the mother of the whole colony, and is capable of laying over 3,000 eggs per day! During the height of the breeding season in the honey-flow, she frequently lays from two to three thousand eggs per day for many consecutive days together. She remains prolific from two to four years, and in some instances queens have been known to remain prolific upwards of five years. Before the queen-bee of a colony becomes quite barren, and while she is still laying, if not removed by the apiarist, the workers themselves supersede her, by killing her and rearing a young queen to take her place. Sometimes, however, the old, worn-out mother is permitted to remain in the hive while the young one is being reared, and ultimately dies of neglect and depression, or is assisted to "shuffle off" by her own unfilial progeny.

The queen is reared from the same egg as the worker, but in a much larger cell, nearly perpendicular, and on different food, called "royal jelly," which has the effect of fully developing the sexual apparatus. The time from the egg to the perfect queen emerged from the cell is about 16 days. In a few days after hatching, the young queen leaves the hive for her "bridal flight," during which, and on the wing, she meets the male bee or drone in copulation, and becomes impregnated, when she returns to the hive to remain there until she leads out the first swarm, which she does when she finds young queens being reared in the hive—one of them being designed to take her place. A single fertile queen in a colony is the normal condition of the household, and hence the old queen departs to make room for her successor. Second and third swarms are of course led out by the young queens. With the exception of sometimes attacking and destroying inchoate queens, the sole function of the queen is to deposit eggs and lead out the first swarm. After her impregnation she deposits both drone and worker eggs—either kind at pleasure. She is capable, however, as a virgin queen, of laying fertile drone, but not worker, eggs. This apparently anomalous fact (parthenogenesis) is now well established, but not only in the case of the virgin queen-bee, but in that of several other insects. Sometimes worker-bees in queenless colonies lay fertile drone-eggs; but the queen is the only fully developed female in the colony.

The worker-bees, though "the bone and sinew" of the hive, are not blessed with the queen's longevity. In active work, on the wing and in the hive, during the honey season, they naturally live but a few weeks—from one to two months—while those hatched in the fall will live until spring, sometimes reaching the age of nine months and upward, which is the maximum longevity of the worker-bee. In passing from the egg to the perfect bee, the worker occupies 21 days. The young worker spends several days (from 10 to 15) at home building comb, attending to the young brood, receiving and depositing the loads of the outside workers, and sundry other little duties, before it ventures to the fields to work. The duties of the older workers of the colony are to gather honey, pollen, and propolis, destroy and cast out the drones when necessary, and defend the colony from enemies without or within. They also, as already noticed, destroy old, unprolific queens and rear young ones to take their places, and sometimes lead out in swarming, as the queen does not always take the lead in swarming. And although very young bees are ordinarily very reluctant to leave the hive, I have seen such rush out under the swarming impulse so young that they could not fly more than a foot or two, if at all. They usually crawl back home again in apparent disgust with the outside world, and doubtless with more wisdom and less conceit.

The third and last rightful denizen of a perfect colony of the bees is the unsophisticated, stingless, but much abused drone—the male bee. He is well named, however, being a very liberal feeder with excellent digestive organs for honey, and with no duties whatever within the hive further than the incidental one of contributing by the presence of his cumbrous corporation to the animal heat of the hive. As to his natural longevity, nobody from Virgil to Huber, Langstroth, Quinby, Newman, Cook, Jones, et alii, seems to know much about it. The matter not being invested with any importance, no investigator seems to have bothered his head much with it. So far as I could ever see, the drone seems to live and thrive admirably until he is either killed off by the workers, starved to death, or gallantly yields up his life in performing his sole function, which he invariably does in the performance of this function in the act of copulation. The drone, as Dr. Dzierzon established, comes from an unimpregnated egg—the virgin queen, and sometimes even workers, being able to lay eggs which will produce drones. As a rule, drones are found in colonies whenever they are needed, or likely to be needed to impregnate the young queens, which is usually during the swarming season and honey harvest. Though they are promptly ejected from strong colonies when not needed, and the honey-flow fails, they are tolerated in queenless colonies, and are sometimes wintered over. The drone is much larger than the worker, and his cell is very protuberant, and in it he spends 24 days from the egg before he emerges.

As remarked at the outset, bee-culture made but little progress on scientific principles for thousands of years. It is only within the last half century or so that it has, under the magic talisman of science, fairly leaped forward like every other pursuit. The first great achievement was the application of the centrifugal force in the construction of the honey-extractor, thus enabling us to get the honey in its purity out of the comb without injuring the latter, when it can be returned to the bees to be refilled. A German (Herr Von Hruschka) accomplished this, and thereby gave a great impetus to bee-culture. Indeed, the invention of the movable frame and the honey extractor completely revolutionized the modus operandi of bee-keeping. As to who is really entitled to the credit of inventing the movable frame, there is some uncertainty, and a conflict of claims. The truth seems to be that some three or four different persons are fairly entitled to credit—each, it would appear, having conceived and developed the idea, more or less independently of the others. Huber and Schmidt in Germany, Munn in England, M. de Beauvoys in France, and Langstroth in the United States, are all fairly, though not equally entitled to credit, and each has placed progressive bee-culture under tribute. Mr. Langstroth, however, seems entitled to much more credit than any of the others, for his hive had more practical value than the whole of the others together. In carrying out the common principle, Langstroth was undoubtedly far ahead.

The next stride in advance was the invention of the manufacture of "comb foundation," which was a great desideratum, as the honey season in the temperate zone is comparatively short, and a new colony of bees supplied with the "comb foundation" will do as much in two or three days as one alongside of it, without the foundation, will do in eight or ten days, as the writer has repeatedly proved. Foundation comb is made by pressing sheets of pure beeswax between metal rollers or plates so constructed as to give to the wax the exact impressions of the cells in the basal wall of the natural comb. This saves the worker bees just that much labor and time, and they proceed at once to rapidly draw out and develop the incipient cells. The merit of this invention is also somewhat in dispute. Upward of 20 years ago the late eminent apiarist, S. Wagner, patented comb foundation in the United States; but it soon transpired that Herr Mehring, in Germany, had previously made foundation, and that the Germans had been using it for three or four years. As it is the accumulated wit and experience of the age, rather than the man, that produces the invention, it is quite likely that Mr. Wagner arrived at the idea without the aid of the other German (for Mr. Wagner was himself a German). Montaigne said that he "had as clear a right to think Plato's thoughts as Plato himself had;" and the American German had not only as good a right as the home Teuton to think out this invention, but he was just as likely to do so, and more likely, for the inspiriting and inventive Yankee atmosphere would soon quicken his blood and sharpen his wits.

Recent bee-culture has been also greatly promoted and extended by the specialty of queen-rearing, which has been brought to great perfection on scientific principles. D. A. Jones, in Canada, and Henry Alley in the United States, have developed the department of apiculture to an extent leaving, one would think, little to be further achieved or desired. As, however, under the progressive laws of evolution, we have ceased to set bounds to improvement in anything not fixed mathematically, we will not say that any department of practical apiculture is yet fully wrought out to perfection.

In order to secure absolute purity of fertilization in the different varieties and sub-varieties in crossing, D. A. Jones, of Beeton, Ont., has established queen-nurseries on some islands in the Georgian Bay, so far from shore and from each other so as to secure entire purity of blood in copulation. Queens and drones bred and mated under such circumstances, from pure imported stock, cannot be otherwise than pure.

Henry Alley also, of Wenham, Mass., has, through a long series of experiments during many years, successfully applied science to the modus operandi of queen-rearing, and has recently given the world the fruits of his labors and researches in a work entitled "The Bee-Keeper's Handy-Book; or, Twenty-Two Years' Experience in Queen-Rearing,"

Another feature of present bee-culture, which is at once both largely the cause of its present advanced condition in this country, and the best proof of its wide extension, is its periodical literature. Devoted wholly, or partially to apiculture, we now have no less than three or four papers in Canada, and nearly a dozen in the United States. Among the latter is one weekly devoted exclusively to bee-culture. This is the American Bee Journal, published in Chicago by Thos. G. Newman. Among the former is the "Canadian Bee Journal," a weekly, just commenced under the most favorable and promising auspices. It is edited and published by D. A. Jones, of Beeton, Ont.

Since the hitherto great difficulty of successfully wintering bees in these climates has been nearly overcome by the application of science, bee-culture must, in the near future, become a great and profitable national industry in Canada and the United States.

[The foregoing article by Mr. Allen Pringle, copied from the "Popular Science Monthly," is quite interesting (as are all of Mr. P's articles), but the paragraph concerning bee-literature has created something of a breeze among our cotemporaries. A full explanation of THAT will be found on page 387.—Ed.]

For the American Bee Journal.

Bee-Keeping Classes—Wintering.

J. W. BAYARD.

Every bee-master in the land is inclined to select from his own standpoint, the methods that look best suited for himself and his surroundings; and whilst many fail, many more will succeed, clearly demonstrating that we always have some master spirit among us. After all, we are more or less governed by the rigors of the climate into which civilization has forced the honey-bee, and we are compelled to provide for its comfort and safety, in doing which we naturally divide into classes, as follows:

1. Those who winter bees in repositories or in-doors.
2. Those who winter bees in open fields with ample protection.
3. Those who winter bees on the summer stands without protection.
4. The slipshod ones who dump their colonies into the fence-corners, among the briers, jimson and burdock, invoking the goddess of luck to help them out. Notwithstanding their reprehensible methods, they will always have a few bees, for the simple reason that nature has certain immutable laws that never perish. It is not entirely clear that those who choose the "ragged edge," by wintering their bees unprotected from year to year, on the summer stands, are in the true line of economy, though they have precedents historically running back to the days of Samson, who obtained his honey from the carcass of a dead lion.

Scoffers have always regarded this simple bit of biblical history as mythical or impractical, when a simple illustration should settle the whole question. Imagine, if you please, the grand old monarch of all the animals of both field and forest, marching with stately tread in pursuit of mutton; being very hungry and thirsty, and finding it not, he takes an overdose of pollen, falls mortally sick, and in due time becomes a royal palace for the honey-bee.

Mark Twain, or some other traveler, tells us that in a country with high temperature and arid climate, like that of Palestine, dead animals are slow to decompose; whilst certain enterprising insects speedily excavate the carcass, leaving the hide and skeleton intact. Now, Mrs. Samson's bees having swarmed, and finding a genial home and a safe place in which to hibernate, in the carcass of the lion that her husband had slain, they simply did what Cyprians and Syrians always do—pitch in and make themselves at home.

OUT-DOOR WINTERING WITH PROTECTION.

One conspicuous advantage in out-door wintering is found in the occasional favorable changes of weather that occur during winter, inviting the bees to a cleansing flight, with the opportunity of carrying out many of the dead from the hive.

Every experienced bee-master will concede the superiority of woolen blankets or felt cloth as a covering over the frames. If a cushion is preferred, then fill it with woolen bats, and you will have something that you will never exchange for anything else.

For packing, there is nothing like clean, bright straw; being a non-conductor of heat it is vastly superior to leaves, fodder, husks, or anything else that I have ever tried. I had about as soon spread a sheet of lead over my bees, as cloth made from flax, hemp or jute, as they hold the moisture instead of passing it off; thus causing consequent death rather than protection.

IN-DOOR WINTERING.

As to in-door or cellar wintering, I have had little experience, and can advise only from facts and theories. I take great pleasure in referring to eminent bee-masters, such as Rev. E. L. Briggs, Rev. O. Clute, Mr. George Grimm, and Mr. H. R. Boardman. If I had a repository that was faulty, or if I had determined to build a new one, the very first thing that I would do would be to draw on the patriotism of any one or all of the above-named gentlemen, for an exact model in detail, of their cellar or repository, as well as the exact detail of the manner of manipulation, or condition of the colonies when placed in for winter. With repositories thus secured that will winter bees with a loss of only 2 per cent., the climax is reached, and we may not fret any longer about death in the hive or unsuccessful wintering.

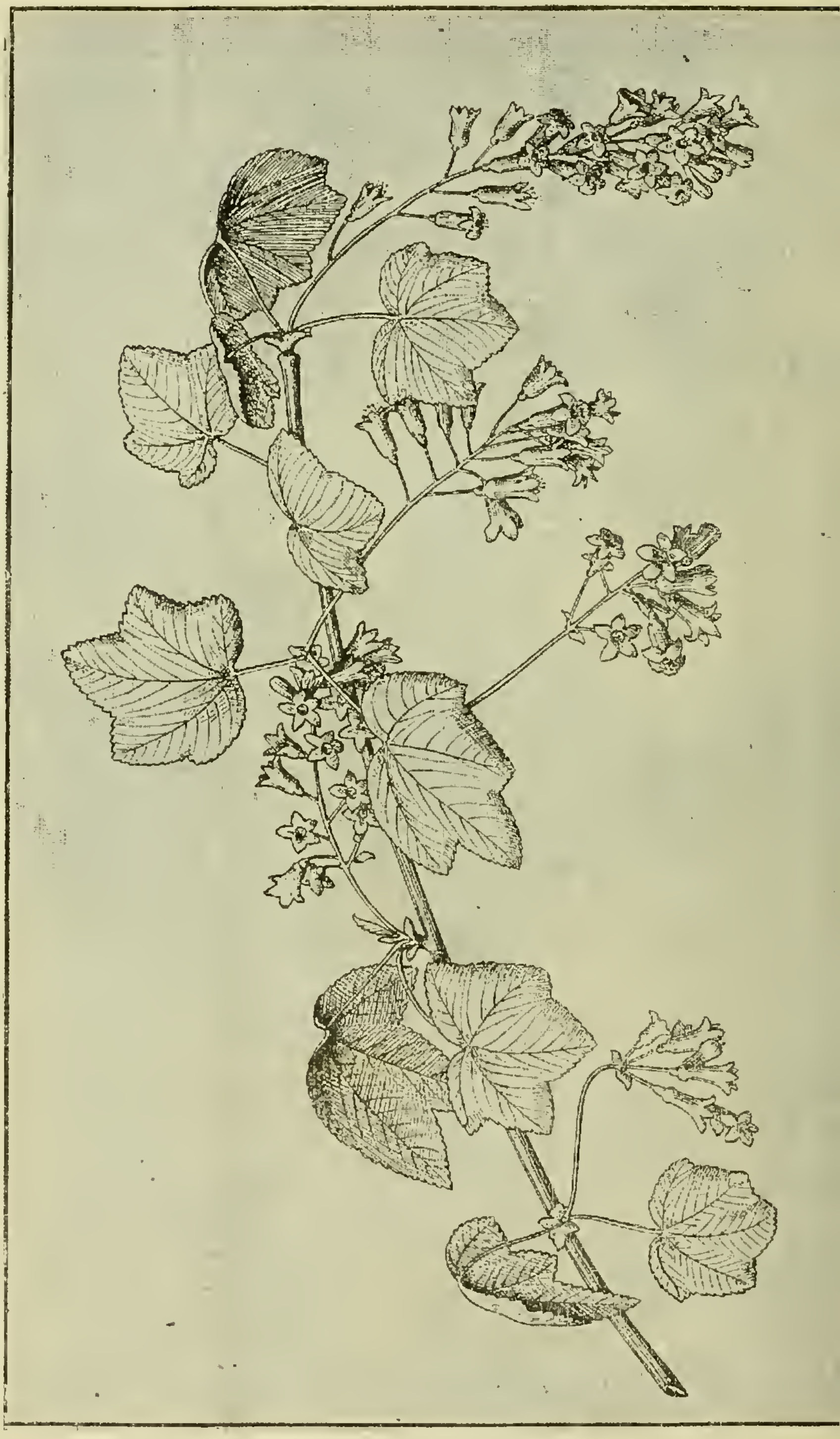
Athens, Ohio.

For the American Bee Journal.

Wild Gooseberries and Currants.

W. A. PRYAL.

In January, when the willow is in bloom, another family of California wild-flowers enjoy with the willow many a pleasant and grateful visit from the bees. Commencing in the latter part of the first month of the year, and extending into February, the wild gooseberries, arrayed in all their thorns and a scanty supply of leaves, commence to open their insignificant flowers, which, however, to the bees, seem to have a charm, for they dive deep and long into each one. There are some three varieties to be found in this State, but we have never seen many growing in one locality.



WILD CURRANT OF CALIFORNIA.

The wild currants, which are as pretty a flower as one could wish to see, comes into bloom a little later than the gooseberries, and their rose-red, many-flowered, drooping racemes are eagerly sought after by the bees on favorable California winter days. These plants, too, are not very numerous, but they, together with the first described, are entitled to be classed with our earliest spring (winter, Eastern folks will say) bee-flora.

The wild currant here shown is botanically known as *Ribes sanguineum*, and is fit to adorn any garden or grace any bouquet.

North Temescal, Cal.

For the American Bee Journal.

Prime Causes of Bee-Diarrhea, etc.

JAMES HEDDON.

I would thank Mr. Stewart for his kind words on page 343; I must also insist that he is mistaken. Most assuredly I have and always shall own up to every mistake.

I have a hard time to get my opponents clear, upon the pollen theory. My admission is that cold will kill bees entirely independent of diarrhea. This has nothing to do with the pollen theory. That theory has to do with the cause of bee-diarrhea, not bee-death. Bee-bread is always pollen, but pollen is not always bee-bread. We get all mixed up. How are we to account for the following facts: 1. Bees winter nicely in very damp, moldy places.

2. They sometimes have diarrhea in a high temperature.

3. All diarrhetic excreta is mainly pollen.

4. They come through the winter in nice condition, with almost no air at all.

5. They die of diarrhea, in dry repositories, with the best of ventilation.

6. They can be wintered successfully with only sugar syrup in the hives in the same repository where four-fifths die on natural stores. They can, on this food (with no pollen in any form), be confined for five months aud accumulate no perceptible fecal matter.

Even if the dry-feces theory were true, pollen is still the prime cause of bee-diarrhea; but only in letter, not in spirit. Should that theory prove true, I will admit that bees can be wintered safely with not only bee-bread in the combs, but honey replete with floating pollen; and that all this long discussion upon the pollen theory, and the costly experiments made, have amounted to, is, that I can now winter my bees with certainty, and so can all who will feed sugar syrup and keep the temperature up to a proper degree; and if the confinement is seven months, success is just as certain. We have the problem mastered.

Mr. S. A. Shuck's fifth paragraph, page 362, proves that neither cold nor confinement is the prime cause of bee-diarrhea. He can produce it, in a few hours in summer, with the temperature about 60°, by feeding diluted honey or sugar syrup. I know that he speaks truly. This shows the error of Mr. Stewart, and the truth of the pollen theory. I have seen bees fed diluted or thin sugar syrup nearly all winter, in a cellar of a temperature of about 40°, and no diarrhea. I know of a bee-keeper who fed nearly 100 colonies thin sugar syrup so late that hardly any of it was capped over. He then placed them in a damp cellar, and they wintered nicely. (If you wish to get right, you must not ignore these facts.)

Now, why this fecal accumulation, of which Mr. Shuck speaks, produced in a few hours in summer? Let the pollen theory answer: Bees in summer are, from their continual activity, all the time wasting tissue and partaking of nitrogen (bee-bread) to replace it. Such consumption demands very frequent discharges. A few hours' confinement loads the intestines. If the dry-feces theory is true, why do not Mr. Shuck's bees void dry feces in their hives, and thus avoid distension? They are warm enough, and dry enough to suit the demands of those who believe in the dry-feces theory, are they not?

The diluted syrup which Mr. Shuck proposes to feed, while it distends the honey-sac, it adds not one particle to the fecal accumulation. If Mr. Shuck will remove all pollen (in every form) from his hive, place the bees in a cellar of 45° temperature, and in 48 hours give them a cleansing flight, then put them back after getting all nitrogen out of them and their combs, he may then place them in a temperature of 55° or 60°, and try his diluted-syrup-feeding experiment, and he will fail to produce fecal accumulations. A watery discharge, slightly colored by waste tissue, is not bee-diarrhea, nor a cause of sickness and death. I have examined this phenomenon carefully.

MODERN TRANSFERRING.

On page 364, Mr. S. Daniels says that he is in trouble with the "New method of transferring." How easily we can err. He errs in saying, "They say;" for Heddon does not, and did not say, "Any time when the bees are on the wing;" if he did he erred. No, I guess Prof. Cook erred this time. We are all a part of "Nature's imperfections," so ably and amply proven recently by Mr. Pringle, and we must cultivate charity for each other's mistakes. Our objects are good.

Mr. Daniels says that he agrees with Mr. Clute, "If the drumming is thorough, there will be no bees left to care for the brood." As. Mr. D. asks for a minute description of my method, I will refer him to page 367 of the BEE JOURNAL for 1883. There I nowhere use the word "thorough;" I say, "I drive the old queen and a majority of the bees." At the very head of the directions I say, "About swarming time." I call this driven one a "forced swarm." Did Mr. Daniels and Mr. Clute never make colonies by division? Did they never form nuclei? Could they be reckless enough to drive all the bees from the brood and set it aside to perish because Heddon or Prof. Cook were understood to so direct?

Sure enough the Professor does carry the wrong idea. Mr. Clute and Mr. Daniels must have taken his directions, not mine. This shows the difference between writing from actual experience and theory or literary knowledge. It is something like my writing about foul brood; or a native of the far South, about bee-diarrhea. Ah, I see that Mr. Clute does not speak of his personal experience, but that of a neighbor novice. Prof. Cook did not get my idea, and Mr. Daniels and Mr. Clute's neighbor took their's from him, no doubt. I believe that none who have worked from my article on page 367 (1883), have failed.

Dowagiac, ♀ Mich.

The Strength of Insects.

Mr. Robt. Corbett, of Manhattan, Kans., sends us the following article, taken from the *New York Sun*, which, doubtless, will be interesting to many:

"If you want to see muscle," a naturalist said, "take a glance through this glass," pointing to a seat before a powerful microscope. The drop of Croton water was fairly alive with little round or oval bodies. There was nothing specially remarkable about them; but soon a wonderful creature rolled upon the scene from a different part of the drop. In appearance it resembled a crystal bell. The edges were ornamented with a delicate fringe, aud the entire mass was as transparent as glass. The mouth of the bell was evidently the mouth of the animal, because the observer saw it rush along like a scoop and, turning down, fasten its edges to the bottom, as if to secure some minute animal that was resisting, and a second later some object could be seen passing up into the body.

"If you had the strength of that animal," the naturalist said, "in proportion to you size, you could take Trinity church by its steeple and toss it over into New Jersey. There are animals in this drop that we cannot see with this powerful glass. Suppose there was this same difference in size among the higher animals; elephants would be as large as the State of Rhode Island. If this bell animal was as much larger than man, as it is than these little creatures it is eating, we would see a gigantic scoop of jelly larger than the Forty-second Street reservoir coming down on us, whirling in the water and causing such a suction that a regiment of men would, if in the water, be hurled and twisted, and then encompassed by it. The strength of the creature can be imagined when it is known that the smallest section of the finest hair that could be cut seemed like a mountain beside it; yet the microscopic creature moved the end of an entire hair placed over the glass. In moving about it threw aside bits of algæ and mud. That could be compared to the act of a single man striking down one of the giant trees of California, or kicking over a block of houses. I am devising an instrument to measure the power of these microscopic giants. You see, among the lot, there are always a number that seem, from no special cause, to be in great terror, rushing about wildly, stopping at nothing, passing through masses of weeds and mud in direct lines. Now, the force with which they bring up against a barrier is certainly the maximum of their strength; so I arranged a machine after the plan of one that I have seen to measure the velocity of a shot, the latter striking a frame, and the force of the blow being recorded on a scale. For my partition I took what was evidently the egg-shell or cover of some microscopic animal. I attached it by one end to a larger body, and the whole thing stood over a delicate scale that was cut in the glass slide, and as the animals rushed along they struck the partition or hand and pulled it around the scale."

"What was the result?"

"Well, to tell the truth, the first one that came along broke down the partition, and I have not yet been able to adjust it again. I have in hand another instrument, with which I intend to measure the movements of the wings and legs of insects per minute and second, and I think they can be photographed as well as the feet of a trotter while in motion. This will be fine work, as with a simple instrument I have shown that the wings of a common house-fly move more than 200 times per second, and the machine lost more than half the vibrations. I have watched a fly for five minutes hanging almost in one spot under a chandelier, kept up by the continuous movements of its wings, and estimated that the operation required over 100,000 beats of the wings, or over 400 a second, or 800 simple oscillations; and the house-fly is not as lively as some others of the tribe. I have, in following bees to find their nest, found that they are on the wing 30 minutes in 45, the allowance being for the time in which they were on flowers, and during that period they must have beat their wings 342,000 times. A spider can bind a fly securely, winding 20 or 30 cables of silk about it, in less than a second and a half. These rapid movements show the wonderful physical power of small animals. Here are some contrivances to measure the strength of beetles and large insects."

One was a long box sanded on the bottom, with glass sides. At the end was a small friction wheel, over which ran a silken thread. On one end was attached a tissue paper receptacle for weights, and the other was tied in a slip-noose. A large black ant was taken from a flask, the noose caught around its body, and on being released, rushed away up the miniature street, hoisting the scales and three grains of corn with the greatest ease. A small red ant was then brought out, and, after several false starts, and showing evidence of a decidedly mulish disposition, it ran off, hoisting a very heavy pea.

"An ant can carry a weight about 75 times its own," the naturalist said. "If you had the muscle of one of these little creatures, in proportion to your size, you could lift about 11,000 pounds."

☞ The Cortland Union Bee-Keepers' Association will hold a basket picnic at the apiary of Mr. Miles Morton, at Groton, N. Y., on Tuesday, Aug. 18, 1885. All bee-keepers, with their families, are cordially invited to be present. W. H. BEACH, *Sec.*

☞ The Bee-Keepers' Association of Central Illinois will meet at Bloomington, Ills., on July 15, 1885, at 10 a. m.
WM. B. LAWRENCE, *Sec.*

Prairie Farmer.

Suggestions for the Season.

MRS. L. HARRISON.

I have just been working in the apiary, and I find that bees are not increasing in numbers as fast as is desirable at this time of year. The first swarm of the season issued on May 21. It is very dry in this locality, and what fruit-bloom there was yielded but little nectar. Many colonies were lost by "spring dwindling" during May; some labeled "good" a few weeks ago, have all gone visiting and have forgotten to return.

The loss of bees during the past winter was very great. An apiarist told me lately that in an adjoining township to the one in which he lived, there were 145 colonies last autumn, and now there is but one. There is demand for bees at present, and probably will be for a year or more. The larvæ of moths are now appearing, and all combs from which bees have died, should be examined. These lubberly objects are great cowards, and revel in darkness and quiet; when a comb is removed from a hive, they are alarmed, stick out their heads, and may be readily discovered. It takes warmth to develop these larvæ, and if only half the requisite number of combs are kept in a hive, and so doubling the distance between them, they will not be infested early in the season; or if hung in a light, airy room about three inches apart, they can be preserved until another season.

Italian bees often swarm without having constructed queen-cells. I have examined a colony from which the swarm had issued, for the purpose of saving all the queen-cells. The colony may intend to swarm several times, but if a long continued rain occurs, and a queen emerges, she will make it her first duty to destroy all rivals; if the weather is fine, and an after-swarm issues, the new queen will leave with it, the remaining cells being unharmed. Bees protect the cells according to their intentions with reference to the issue of after-swarms. I have seen swarms no larger than an apple, when clustered; such are of no value when left to themselves, but if strengthened with emerging brood, the young queen may prove valuable, and soon make a good, prosperous colony.

When combs containing brood and bees are removed from a colony for the purpose of forming a nucleus, all the bees except the very young will return to their queen. But when a colony has queen-cells and no queen, if a comb is removed with bees and a queen-cell, more of the bees will remain. I took frames of brood containing bees and queen-cells, and formed nuclei. When the young queens become fertile, I will either build them up into strong colonies, or introduce them to queenless colonies. The prosperity of a colony depends upon its queen, hence queens should be reared from the very best colonies. In all apiaries of any size, some colonies will be found more populous than the others; others again excel in honey-gathering, and queens should be reared from those containing the best traits. All queenless bees will immediately construct queen-cells, when furnished eggs, or larvæ not over three days old, and these should be supplied from the best colonies.

Peoria, ⊙ Ills.

For the American Bee Journal.

Half-Pound Packages of Bees.

MAHALA B. CHADDOCK.

Some fear that a half-pound of bees is not enough to build up a colony with, when put on the combs of honey where the bees have died. I want to say that a half-pound of bees is plenty to start with, as they will keep the moths out of the combs, and will soon grow into a colony. How do I know? I know from experience.

A neighbor of mine sent for three half-pound packages of bees with a dollar queen in each; I clipped the queens' wings and helped put them into the hives; ten days later I examined them and they had four frames full of eggs and young brood in all stages; enough to fill one whole frame being capped over. Two of the hives had each four frames full, and the other one had three pretty well filled.

The bees were put in on May 27, and the weather was very warm the following week. If they should be put in during a cool week, such as we sometimes have in summer, they would not breed up so fast, but in good summer weather they will do it. I wish now that I had sent for more half-pound packages of bees, instead of rendering my old combs into wax.

Vermont, +o Ills.

For the American Bee Journal.

Thousands for Defense.

W. H. STEWART.

I have read with much interest both the editorial notes, and the articles by Messrs. Freeborn and Heddon, on page 346, and I must say that if I were now to hold my peace in regard to the matter which those articles set before the bee-keepers of the land, I would, as Mr. Heddon says, be guilty of "the sin of omission." I am well acquainted with Mr. Freeborn, the defendant in the extraordinary suit in question.

Both Mr. Freeborn and myself came to this county (Richland) in an early day. We were among the first settlers, and we have been neighbors for many years. Mr. F. has been engaged in the nursery business in connection with bee-keeping, and his traffic in fruit-trees all over Wisconsin and the adjoining States has made known his integrity and prompt business character to thousands of farmers and other business men, as well as hundreds of bee-keepers. He attends strictly and thoroughly to his own business; lives in peace with all men as far as is in his power; and has had no trouble with his neighbors, except from a few ignorant farmers who claim that his bees damage their clover, buckwheat and fruit crops.

Mr. Editor, you say in your note on page 339, "We call for a halt in such a 'career of madness.'" That expresses my mind exactly. If need be let all other subjects on bee-keeping give place in the BEE JOURNAL, to this matter, until we know whether one has a legal right to keep bees in the United States. Let every one of the 500,000 bee-keepers of America be heard, if they write no more than to say, "Count me in as a member of the Defense Organization;" and let the fee be promptly sent with each name. Let us pile up the dollars by the thousands, for mutual defense, and give the world to understand that, if need be, we can employ the ablest lawyers in America to defend us in our chosen pursuit.

I second Mr. Heddon's motion, that Mr. T. G. Newman be chosen as our secretary-treasurer and general manager. Bee-keepers, one and all, will send in their names at once! "and don't you forget it!"

Orion, ♀ Wis.

SELECTIONS FROM OUR LETTER BOX

Gathering Honey Rapidly.—J. H. Andre, Lockwood, ♀ N. Y., on June 15, says:

White clover, for years the latest in blossoming, is here at last, but the bees are giving it the go-by for the more tempting nectar of the red raspberry. In all of my 25 years' experience with bees, I do not recollect a season when bees gathered stores as fast as at the present time. In some surplus boxes foundation has been drawn out half an inch on each side in 3 days, and they keep it chock-full of honey as fast as it is built.

Large Honey Crop Expected.—B. F. Baldwin, Marion, ⊙ Ind., on June 12, 1885, says:

I put 43 colonies of bees into winter quarters, and all came through the winter in good condition, except one that starved, one that was queenless, and one that had a drone-laying queen. I sold one colony, and now I have 39 strong ones left, some of which I am unable to lift. The prospect for a large honey crop in this section is better than it has been for years.

A Lace-Winged Insect.—G. W. Ashby, Valley Station, ♂ Ky., says:

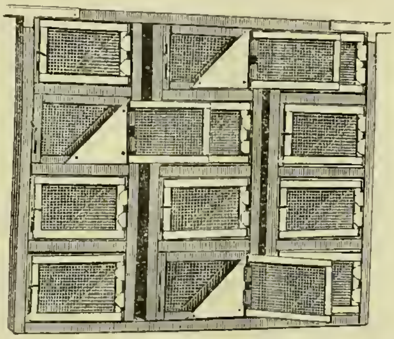
I send an insect which I found in a box-hive when I was transferring. Will Prof. Cook please tell what it is? and whether it lives on honey or on bees?

[This is a common lace-wing of the genus Chauliodes. It is too much crushed to be identified. These insects are common all over the United States. It neither cares for honey nor bees, and must have entered the hive just for curiosity, which was doubtless satisfied.—A. J. COOK.]

Queen-Nurseries. — A subscriber from Canada writes as follows concerning queen-nurseries:

At the Toronto Fair I saw queen-nurseries, i. e., a lot of metallic queen-cages in a frame the same size as a brood-frame; but I do not understand their use. Will you please describe them in the BEE JOURNAL, as I wish to learn all I can about queen-rearing.

[The queen-nurseries referred to were those invented by Dr. Jewell Davis, for rearing queens for the purpose of Italianizing an apiary. Put into the cages of the nursery, between the tins, a few cells of sealed honey, in new comb if possible. Then cut from the combs of a pure Italian colony as many queen cells, large and well developed, as you have prepared cages with the honey, as above. Suspend one of the cells in each of the cages. Care should be taken to have the best cells, and not to allow them to become injured by bruising, handling or jarring. Having thus supplied each cage of the nursery with a queen-cell and food—the food is thus supplied that the young queens may not starve if the bees do not feed them, a thing they often fail to do when there is a scarcity of honey in the flowers—the nursery cages so prepared are adjusted in the nursery-frame; then having removed a centre comb from a strong colony, the queen-nursery may be placed into the vacancy made by the removal of the comb, there to remain until the queens are hatched, which will be in 3 or 4 days, if the cells were not cut from the combs too early, or before the ninth day. When the queens have emerged from the cells, remove the cage and introduce the caged queen to a black colony, liberating her on the next day about sundown; if necessary, spraying the bees with perfumed water with an atomizer.—ED.]



QUEEN NURSERY.

Bees Under the Snow.—Chas. Mitchell, Molesworth, Ont., on June 15, 1885, writes as follows:

Mr. Doolittle's statement and mine must be most confusing to beginners. Mr. W. F. Clarke visited me lately, and I showed him the first and only colony that I have lost in 6 years. My two rows of hives next to the fence are generally under 5 feet of snow; the stands being 6 inches high and large enough to place on a packing-box without a bottom, and with a movable lid. My bees being packed in boxes is why they do not smother with full summer entrance open. I have concluded to place most of my bees next to the fence this fall, as no such even temperature can be had outside as we get under the snow. I am very careful to not even go inside of the yard during winter, and more so if the snow is crusted. Mr. Clarke would prefer his bees above the snow-line, but with me it just goes to the snow-line, but down instead of up. My bees were about equal on shallow frames and deep ones, and my success was 300 per cent. in favor of shallow frames. My bees have died badly this spring, the cause of which I lay at the door of cold and moisture. I think Mr. Doolittle need not worry about his schooling, as he possesses something few colleges in America can give on his calling. I have been in favor of out-door wintering, but from the past cold winter I have concluded to build a proper house, as out-door packing in such winters does not keep the bees warm enough to steer clear of bee-diarrhea. Can it be possible that Mr. D. packs his bees, or is our snow in Ontario more porous?

Defense Fund.—J. C. Wilson, Ridgeland, ♀ S. C., on June 13, 1885, says:

I think well of Mr. Heddon's plan suggested on page 346, to raise a "defense fund," and I also name Thos. G. Newman as my choice for secretary-treasurer and general manager of the good work. In my opinion nothing can elevate our calling more than to band ourselves together as a fraternity. We all realize the force of the old adage, "in unity there is strength."

Bees Under Snow in Winter.—O. O. Poppleton, Williamstown, ♂ Iowa, on June 12, 1885, writes as follows:

On page 357, Mr. Doolittle asks how far hives were from the ground in which bees have been successfully wintered under snow. My hives are from 2 to 4 inches above the ground, and I cannot think that Mr. House is correct in his opinion, for two reasons. Close setting to the ground has been no detriment to my bees, and I do not think that the snow does thaw frost out of the ground; at least it does not work that way up here in Northern Iowa. During the winter of 1880-81, about 50 of my colonies were entirely buried under the snow for at least two months, and I never had bees winter better. During the winter of 1882-83, a part of my bees were where the snow was blown almost entirely away from the hives, and this part of the apiary suffered much more severely than did those so situated that the snow was piled over and around the hives. I cannot account for Mr. Doolittle's non-success in wintering bees under snow, unless it may be that his method of packing leaves no large air-space around and above the chaff-cushions inside the hive or packing-case, as my hives do.

Rapid Honey Gathering.— J. W. Eckman, Richmond, ⊸ Tex., on June 12, 1885, says:

Bees are just booming. Three weeks ago I had to work hard to keep young swarms, and some old ones, from starving; last week I had to work harder to give them room in which to store honey. I have never seen hives fill up so fast. My best colony, on June 3, gathered 24 lbs. of honey; on June 4, 22½ lbs.; on June 6, 29 lbs.; on June 7, 29 lbs.; and 8 days previous to June 3, I had to feed it to keep it from starving. The spring was wet and cold, and thus kept back swarming until March 6. They stopped swarming about the middle of April. From May 1 until linden and horse-mint blooms there is nothing for them to gather, and we have to watch them closely as they consume all gathered in early spring. I am busy now extracting, and finer honey I never have seen.

Not One Colony Left.—Isaac Darling, Steuben,♂ Ohio, on June 15, writes thus:

I lost all my bees last winter. They were in double-walled hives with an inch air-space all around, and each colony had plenty of good fall honey. In the future I will put my bees in the cellar, or some suitable place. No more out-door wintering for me in this locality.

Wintering Bees Under Snow.—Jas. McNeill, Hudson,⊸ N. Y., on June 15, 1885, writes:

As Mr. Doolittle wishes those to report who winter their bees on the summer stands close to the ground, where they are likely to be covered with snow, I would say that I winter all my bees on the summer stands, the bottoms of the frames being about 4 inches from the ground. I allow the snow to lie about the hives, and prefer to have them partially buried in it. My experience extends through 5 winters, and I have met with my first loss during the past winter. In my home apiary of 117 colonies, 16 were lost—all from starvation, without a trace of diarrhea, and 14 had not a particle of honey in any part of the hive. In my out apiary there was a row of hives standing along a fence which was completely covered with a snow drift for the greater part of the winter. I found the chaff above the cluster almost rotten from dampness, which had accumulated during the winter, and which the snow had prevented the sun and wind from drying out. As I have always laid much stress on having a winter protector open enough at the top so that the sun and wind might keep the chaff dry above the cluster, I was somewhat concerned about these bees which showed such an accumulation of moisture in the chaff, but they came through in better condition than the rest of the apiary, only one being lost out of 17.

Wax-Extractors.—C. H. Dibbern, Milan,⟜ Ills., writes as follows:

A few years ago I made a wax-extractor, and I was at first delighted with it. After using it a few times and comparing the quality of the wax produced, with some that I had previously secured by boiling, my enthusiasm cooled very perceptibly. I found that while I could get as much wax with the extractor, the color when melting old black comb was 3 or 4 shades darker. Of course in rendering cappings or pieces of white comb there would be no particular difference. My extractor was so constructed that the wax in the comb would be melted by steam and then run off into a pan to cool; but a great deal of black water would run in with the wax, and to this I attributed the darker color. There may be wax-extractors not open to this objection, and if so I would like to know it. I have noticed the dark appearance of a good deal of the wax in the market, and those that have bought foundation for brood-frames, have probably noticed that it is usually not of a golden hue. Is not a good deal of this due to the wax-extractors?

Moving Bees, etc.—Geo W. Morris, Cornishville,⊙ Ky., on June 11, 1885, writes thus:

As I have moved my apiary successfully four times, I will describe my method of preparing and hauling bees: Secure the services of two of the most efficient bee-masters in the neighborhood to assist you; then with smoker, nails, tacks and hammers proceed to nail the frames at both ends with three-penny nails. Next nail the top-story and fasten the covers; this had better be done with six-penny nails. By the way, if the hives need any repairing, now is a good time to attend to it, while the bees are under control, and you have plenty of help. Take quilt-lining or wire-cloth, either will do, cut it the proper size to cover the porticos, and tack it on with three-ounce tacks, when the bees are all in their hives. Get a two-horse wagon with a long, deep frame, tramp in straw at least one foot deep, place the hives so the combs will run lengthwise of the wagon, and steady them by cramming bunches of straw between them. When you arrive at the destination, unload, liberate the bees, and place one or two boards upright in front of each hive to cause the bees to mark their new location, and all will be well. In this way I have moved 17 colonies, 6 empty hives and an extractor, all at one load, and a distance of 25 miles. The above method is for two-story Langstroth hives with porticos. Without porticos the ventilation would be insufficient. The prospect now is that there will be no surplus honey in this county (Mercer) this season on account of too much cold weather last winter, and too much dry weather now, I think. I have handled bees for 7 years, and I believe that this is the poorest season for bees and honey in all that time. So far I have not heard of a single swarm.

Shade for Bee-Hives, etc.—George Poindexter, Kenney,⊙ Ills., on June 9, 1885, writes as follows:

I began the past winter with 195 colonies in caves, and up to June 1, I lost 20 colonies by diarrhea, rats, and spring dwindling. The loss in spring has always been the worst trouble with me. How to evade spring dwindling, or keep the bees in the hives on cool days also bothers me. Many bees leave the hives, stimulated by the warmth of the sun, and when they strike the shade they go down and never return. I think that I will try putting a large box made dark and coming down over the hive and ground about a foot from the hive all around, and when the thermometer in the shade indicates 55° or 60°, then I will raise the box in front and let the bees out. Have any bee-keepers tried the experiment? If so, I would like to hear their experience. About all the bees in this county were lost during the past winter. The white clover is coming out finely. The linden promises to be good, also a good crop of heart's-ease and catnip. We had a little frost here last night, so it is too cool for nectar secretion to-day. I think it will take about two hot summers to warm the air after such a winter as the last was.

No Honey from White Clover.—G. W. Ashby, Valley Station,♂ Ky., on June 13, 1885, writes thus:

I am located 10 miles below Louisville, Ky. We have had a very hard winter and late spring, and there has been a great mortality among the bees. I lost about ¼, which starved with plenty of honey in the hive. Some bee-keepers lost all, some one-half, and some nearly all. There is a great interest taken in bees in this section now. We are getting rid of the box-hives very fast, and almost all are adopting the Langstroth hive. My bees came through the winter very weak, and consequently by the time I got them in good working condition the best of the season was past here. I have now 87 colonies, nearly all of which are in good working order. We had a good apple and locust bloom, but the colonies were too weak in bees to gather more than enough to rear brood. Now the white clover is in blossom, but the bees are not working on it, on account of the dry weather. I went through a large clover field near my apiary, expecting to see hundreds of bees on the white heads, but what was my surprise to find only 3 or 4 bees. I have about 4 acres of Alsike clover, and the bees work on that pretty well. Taking all in all we are having a poor season. I commenced to extract on June 8, but I found so little honey that I quit. I have a few section-cases nearly full. I am disheartened at the way the honey season has gone. I have worked hard to get my bees strong, and now the white clover is secreting no honey, and that is our surplus source. Some of my neighbors' bees are swarming pretty freely, and going to the woods. I am now starting a new apiary about five miles from my home, and near the river, which I believe is a better location. The bees are gathering honey faster there than those at my home apiary. I visited it on June 10, and I found them ready for the sections and the extractor. I have only 13 colonies in the new place.

Abundant Bloom, but no Nectar.—J. W. Sears, Harrodsburg,♂ Ind., on June 11, 1885, says:

It looks a little discouraging; white clover has been in bloom for about three weeks, and no honey yet, although there is plenty of bloom. Bees are killing off the drones as though it was the fall of the year, and robbers are plentiful. I commenced the season with 92 colonies, and I have increased them to 100 by natural swarming, and they are in fair condition for work, if there was only anything for them to get. If we do not get any honey from linden, we will be left out this year.

Moving and Wintering Bees.—W. B. Brown, Ferrisburgh,⟜ Vt., on June 8, 1885, writes thus:

I moved my bees late in October, 1884, 200 miles by freight. They were shut up one week, and arrived here in a snow-storm. It was three days before the weather was suitable to open the hives, and then only for about three hours. They had only two flights before cold weather set in, and then those were of only short duration. I had 15 colonies in the Bristol hives, and 10 of them were packed with paper stuffed in tightly; 5 were packed with dust or waste from the rag-cutters, from a paper mill. I put them facing the north, with a board up in front of each hive. I placed sticks crosswise of the frames, so that there was a ⅜-inch space over the top-bars for the bees to move over the frames. I put on felt blankets, such as they use on paper machines, then 6 inches of chaff on top of that, and I lost only 2 colonies, and those were lost by carelessness. One colony got out in the car by my not properly securing a cover to a hole in the honey-board, and reduced them very much. Another by the carelessness of the teamster that moved them from the depot, was upset, and some of the bees mashed; they are doing splendidly now.

Local Convention Directory.

1885. *Time and place of Meeting.*

July 15.—Central Illinois, at Bloomington, Ills.
Wm. B. Lawrence, Sec.

Dec. 8—10.—Michigan State, at Detroit, Mich.
H. D. Cutting, Sec., Clinton, Mich.

☞ In order to have this table complete, Secretaries are requested to forward full particulars of time and place of future meetings.—Ed.

◆

☞ **Sample Copies** of the BEE JOURNAL will be sent FREE upon application. Any one intending to get up a club can have sample copies sent to the persons they desire to interview by sending the names to this office.

Honey and Beeswax Market.

Office of the AMERICAN BEE JOURNAL,
Monday, 10 a. m., June 22, 1885.

The following are the latest quotations for honey and beeswax received up to this hour:

CHICAGO.

HONEY.—Demand is light and receipts are also light. Prices range from 10@15c. for best grades of comb honey, and for extracted, 5@7c.

BEESWAX—22@25c.

R. A. BURNETT, 161 South Water St.

BOSTON.

HONEY.—We quote the following prices: Fancy white comb in 1-lb. sections, 16@18c.; the same in 2-lb. sections, 15@16c; fancy white California 2-lbs., 12@14c. Extracted weak, 6@8c. Sales very slow.

BEESWAX.—32 cts. per lb.

BLAKE & RIPLEY, 57 Chatham Street

NEW YORK.

HONEY—We quote: Fancy white clover in 1-lb sections, 14@15c; fair to good white clover in 1-lb. sections, 12@13c; fancy white clover in 2-lb. sections, 13@14c; fair to good white clover in 2-lb. sections, 11@12c; fancy buckwheat in 1-lb. sections, 9@10c; fancy buckwheat in 2-lb. sections, 7@8c. Ordinary grades, no sale. Extracted white clover, 7@8c; extracted buckwheat, 6@6½c.

BEESWAX—Prime yellow, 26@29c.

MCCAUL & HILDRETH BROS., 34 Hudson St.

CINCINNATI.

HONEY—There is no new feature in the market. Our regular customers only are buyers at present. There is almost no outside demand, and low figures are no inducement. We quote extracted honey from 5@8c on arrival, and comb at 9@12c.

BEESWAX—Good demand and arrivals plentiful. We quote 24@28c for good yellow on arrival.

C. F. MUTH, Freeman & Central Ave.

SAN FRANCISCO.

HONEY—Market very quiet. Choice extracted is the only kind which buyers at present care to purchase in a wholesale way, and there is little of this sort offering. No new crop honey has yet arrived; none expected for several weeks. White to extra white comb, 8@9c; dark to good, 4@7c; extracted, choice to extra white, 4⅞@5¼c; amber colored, 4¼@4¾c.

BEESWAX—Quotable at 25@62c—wholesale.

O. B. SMITH & CO., 423 Front Street.

CLEVELAND.

HONEY—Is very dull just now during strawberry time, and although we hold at 14@15c per lb. best white 1-lb. sections, it is merely nominal, as there are no transactions. As soon as our people have satisfied their craving for acid fruits, they take very kindly to nice white honey, and we may look with confidence to a good demand in July, August and September.

BEESWAX.—Scarce at 28@30.

A. C. KENDEL, 115 Ontario Street.

KANSAS CITY.

HONEY—Demand is light and prices weak. We quote choice ½-lb. sections, 15@16c; 1-lb., 13@14c; 2-lb., 10@11c. Extracted, 5@6c, according to quality. Half-pound sections of comb honey are in demand.

BEESWAX—25@30c.

CLEMONS, CLOON & CO., cor. 4th & Walnut.

Special Notices.

☞ Our rates for two or more copies of the book, "Bees and Honey," may be found on the Book List on the second page of this paper. Also wholesale rates on all books where they are purchased "to sell again."

◆

☞ For two subscribers for the Weekly BEE JOURNAL (or 8 for the Monthly) for one year, we will present a Pocket Dictionary, and send it by mail, postpaid.

◆

☞ If your wrapper-label reads JUNE 85, please remember that your subscription runs out with this month. Renew at once, so as not to lose any numbers.

◆

☞ **Back Numbers.**—We can supply a few more of the back numbers to new subscribers. If any want them, they must be sent for soon, before they are all gone.

☞ **Preserve your papers** for reference If you have not got a Binder we will mail you one for 75 cents, or you can have one FREE if you will send us 3 new yearly subscriptions for the BEE JOURNAL.

◆

To Correspondents.—It would save us much trouble, if all would be particular to give their P. O. address and name, when writing to this office. We have several letters (some inclosing money) that have no name; many others having no Post-Office, County or State. Also, if you live near one post-office and get your mail at another, be sure to give the address we have on our list.

◆

☞ To create Honey Markets in every village, town and city, wide-awake honey producers should get the Leaflets "Why Eat Honey" (only 50 cents per 100), or else the pamphlets on "Honey as Food and Medicine," and scatter them plentifully, and the result will be a DEMAND for all of their crops at remunerative prices. "Honey as Food and Medicine" are sold at the following prices:

Single copy, 5 cts.; per doz., 40 cts.; per hundred, **$2.50.** Five hundred will be sent postpaid for **$10.00;** or **1,000** for **$15,00.** On orders of **100** or more, we will print, if desired, on the cover-page, "Presented by," etc. (giving the name and address of the bee-keeper who scatters them).

POSITION WANTED—by S. H. Howard, an educated deaf mute. He has had 4 years' experience in bee culture and poultry business, and would be glad to work for small wages in the country. Address for 10 days, 981 Polk street, Chicago, Ills. 25A1t

FOR SALE.—45 colonies of pure Italian and Hybrid Bees. L. frame. No 1 honey-gatherers. Address **A. E. WILLIS,** Towson, Balto Co. Md. 25A1t

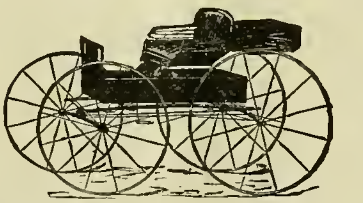
3-FRAME NUCLEI.

HAVING a large stock of Bees on hand, and my honey season nearly ended, I will sell 3-frame Nuclei, every hive full of bees and every frame filled with capped brood, except just honey enough to last while shipping, for **$3.00 each.** Each Nucleus will contain a warranted Italian Queen, reared by natural swarming. If tested Queens are wanted, add 50 cts. each; the tested Queens being one year old. Size of frames, 10¾x14, or Standard L. frames. Address,

JAMES WOOD,
25A1t NORTH PRESCOTT, MASS.

COLUMBUS BUGGY CO.,

COLUMBUS, OHIO,
KANSAS CITY, MO.



Largest Manufacturers in the World of Light Vehicles of every description.

Warranted strictly first-class quality throughout. Stand the severest use. Absolutely reliable. Style and finish unequaled.

☞ WRITE FOR CATALOGUE AND NAME OF NEAREST DEALER.

Our Sign, "COLUMBUS BUGGY CO'S BUGGIES," in every town. Look out for it! 25A2t

CHOICE ITALIAN

Bees and Queens

I **CAN FURNISH 2 FULL COLONIES** of Choice Italian Bees in 8-frame Langstroth Hives at $10 each. They are bred up to the **HIGHEST STANDARD** of excellence for all the best points. They are gentle and **GOOD WORKERS.**

Also some **Purely Tested ITALIAN QUEENS** for sale at $3 each.

ALFRED H. NEWMAN,
923 West Madison Street, - CHICAGO, ILL.

Dadant's Foundation Factory, wholesale and retail. See Advertisement in another column.

LOS ANGELES.

HOMES IN SOUTHERN CALIFORNIA.

"Stern winter smiles on that auspicious clime,
The fields are florid with unfading prime;
From the bleak pole no winds inclement blow,
Mould the round hail or flake the fleecy snow;
But from the breezy deep the bless'd inhale,
The fragrant murmurs of the western gale."
—Homer.

FULL information concerning the garden spot of the world, beautiful LOS ANGELES, THE LIVELIEST AND MOST PROSPEROUS SECTION OF THE PACIFIC COAST, furnished by the Los Angeles **Weekly Mirror** a mammoth 72 column PAPER, the best weekly in California SEND FOR IT. Single copy, three two-cent stamps; six months, **$1**; one year, **$2.**

Address THE TIMES-MIRROR CO.,
25A13t Los Angeles, Calif.

BE SURE

To send a Postal Card for our Illustrated Catalogue of APIARIAN SUPPLIES before purchasing elsewhere. It contains Illustrations and descriptions of everything new and valuable needed in an apiary, at the lowest prices. Italian Queens and Bees. Parties intending to purchase Bees in lots of 10 colonies or more, are invited to correspond.

J. C. SAYLES,
1D15t 2B5t HARTFORD, WIS.

DOOLITTLE.—For prices of his QUEENS see page 349 of BEE JOURNAL, or send for Circular. G. M. DOOLITTLE, Borodino, N. Y. 11E15t

SEND POSTAL for Circulars of **BEES, QUEENS, COMB FOUNDATION,** etc., etc. Address, G. H. KNICKERBOCKER, Pine Plains, N. Y. 23Dtf

1885.—QUEENS—1885.

ALBINO AND ITALIAN QUEENS,
producing workers to the BEST for purity, docility and industry. Write for Circular. Also have DOLLAR Queens.
22D4t **H. P. DEAHL, Berryville, Va.**

DUNHAM AND VANDERVORT

FOUNDATION.

WE have bought a large stock of **Choice Yellow Beeswax,** and can furnish Dunham Comb Foundation for brood comb for **45c.** per lb. Thin Dunham for Sections, **50c.** per lb. Extra thin Vandervort, 10 to 12 square feet to the lb., **55c** per lb. **Send for prices for 25 lbs. or more.** Will work up wax into Foundation for **10, 15** and **20c.** per pound.

F. W. HOLMES,
9D9t COOPERSVILLE, Ottawa Co., MICH.

My 17th Annual Price-List of Italian, Cyprian and Holy-Land Bees Queens and Nuclei colonies (a specialty): also Supplies—will be sent to all who send their names and addresses. **H. M. BROWN,**
17Dtf Light Street, Columbia County, Pa.

Sweet Clover

— FOR —

BEE PASTURAGE.

IT MAY be sown on all waste places at any time, and will grow on any soil—in any climate. Price, 20 cents per pound; $2.75 per peck; $10.00 per bushel (60 lbs.)

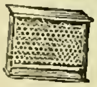
ALFRED H. NEWMAN,
923 West Madison Street, - CHICAGO, ILL.

Dadant's Foundation Factory, wholesale an retail. See Advertisement in another column

---

FLAT-BOTTOM

COMB FOUNDATION,



high side-walls, 4 to 16 square feet to the pound. Circular and samples free

J. VAN DEUSEN & SONS,
Sole Manufacturers,
Sprout Brook, Mont. Co., N. Y.

---

65 Engravings.

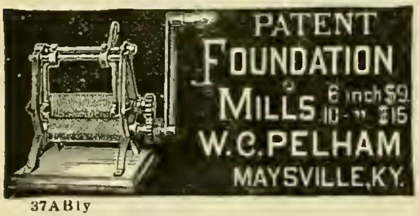
THE HORSE,

BY B. J. KENDALL, M. D.

A TREATISE giving an index of diseases, and the symptoms; cause and treatment of each, a table giving all the principal drugs used for the horse, with the ordinary dose, effects and antidote when a poison; a table with an engraving of the horse's teeth at different ages, with rules for telling the age of the horse; a valuable collection of recipes, and much valuable information.

Price 25 cents.—Sent on receipt of price, by

THOMAS G. NEWMAN,
925 West Madison Street, - CHICAGO, ILL.



PATENT FOUNDATION MILLS 6 inch $9. 10 " $15
W. C. PELHAM
MAYSVILLE, KY.

37AB1y

Given's Foundation Press.

THE GIVEN PRESS stands in the **front rank** for manufacturing **FOUNDATION in Wired Frames**, as well as foundation for **SECTIONS.** Without a dissenting voice, all of our customers affirm its superiority.

Send for Circulars and Samples.

D. S. GIVEN & CO.,
1ABtf HOOPESTON, Vermillion Co., Ills.

Six Apiaries. All interested in **Bees** or **Honey** should send for our **Price List** and **Catalogue** of **Bees, Queens,** and **Apiarian Implements.** **1000 colonies of Bees for sale.** *Safe Delivery guaranteed.* **FLANAGAN & ILLINSKI,**
Lock Box 995, **Belleville,** *St. Clair Co.,* **Ills.**
1AB1y

Dadant's Foundation Factory, wholesale and retail. See Advertisement in another column.

DISCOUNT

— ON —

WIRE NAILS!

UNTIL further notice, I can make a discount of **25** per cent. from my Catalogue prices on **Wire Nails,** owing to a decline in the market.

ALFRED H. NEWMAN,
923 West Madison Street, - CHICAGO, ILL.

SECTIONS!

FOR FINE, smooth and accurate work, our Sections are **at the head,** and the exceeding whiteness of our Poplar is unsurpassed. Send for samples and prices.

APIS AMERICANA.—Orders for Queens of the beautiful **SYRIO-ALBINOS,** will now be received. Reared by my **new method,** all are large and fine and perfect. We have made a great discovery in Queen-Rearing, and hereby challenge the production (by natural swarming or otherwise) of Queens that will excel ours in any valuable quality. Isolated 3 miles from other bees. First come, first served. Send for circulars.

Address, **DR. G. L. TINKER,**
1Atf **New Philadelphia, O.**

---

60 New Style, Embossed Hidden Name and Chromo Visiting Cards, no 2 alike, name on, 10c., 13 packs $1; warranted best sold. Sample book, 4c. L. JONES & CO., Nassau, N. Y.
11A1y

THE INVERTIBLE HIVE!

INVERTIBLE FRAMES,

Invertible Surplus Honey Cases, Entrance Feeders, Top and Bottom Feeders, Hive-Lifting Device, Honey Extractors, Wax Extractors, Comb Foundation, etc.

☞ My new Illustrated Catalogue is now ready, and will be mailed to all who may apply for it. Address,

J. M. SHUCK,
DES MOINES, IOWA.
10A1y

PURE PHENOL I can furnish Pure Phenol for the cure of **FOUL BROOD,** as described by Mr. Frank Cheshire, of London, England. As it is a liquid, it can be sent only by express. Price, **25** cents per ounce, delivered at the express office in Chicago.

ALFRED H. NEWMAN,
923 West Madison Street, - CHICAGO, ILL.

WIN more money than at anything else by taking an agency for the best selling book out. Beginners succeed grandly. None fail. Terms free. HALLETT BOOK CO.
51A1y Portland, Maine.

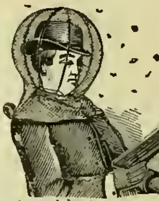
Re-Written and Enlarged! Third Edition of the

BEE-KEEPERS' HANDY BOOK

300 pages and nearly **100** fine illustrations. Price by mail, nicely bound in cloth, **$1.50** per copy. Book and tested Queen of any race, by mail, $2.50. Book and sample Drone and Queen Trap, by mail, $2.00. Our Queens cannot be excelled for beauty, purity, mild disposition, honey-gathering and wintering qualities. All my Queens are reared at the "Api. bee-farm." Send for prospectus and price list.

22A16t **HENRY ALLEY, Wenham, Mass.**

A NEW BEE-VEIL.



There are five cross bars united by a rivet through their center at the top. These bars are buttoned on to studs on the neck-band. The bars are of best light spring steel; the neck-band of best hard spring brass; the cover is of handsome light material. It is very easily put together, no trouble to put on or take off, and folds compactly in a paper box 6x7 inches by one inch deep. There would be no discomfort in wearing it either day or night, and the protection against Mosquitoes, Flies, Bees, Gnats, etc., is perfect. The weight of the entire Veil being only five ounces. **Price, by Mail or Express, $1.00.**

Special discount to dealers, on ½ dozen or larger quantities.

ALFRED H. NEWMAN,
923 West Madison Street, - Chicago, Ills.

$200,000 *in presents given away.* Send us 5 cents postage, and by mail you will get *free* a package of goods of large value, that will start you in work that will at once bring you in money faster than anything else in America. All about the $200,000 in presents with each box. Agents wanted everywhere, of either sex, of all ages, for all the time, or spare time only, to work for us at their own homes. Fortunes for all workers absolutely assured. Don't delay. H. HALLETT & CO.
51A1y Portland, Maine.

Muth's Honey Extractor,

Square Glass Honey Jars, Tin Buckets,
Langstroth Bee-Hives, Honey-Sections, etc.

Apply to **CHAS. F. MUTH,**
Freeman & Central Ave., - CINCINNATI, O.

☞ Send 10c. for Practical Hints to Bee-Keepers.

BEES, EARLY QUEENS,

AND SUPPLIES FOR 1885.

IF you need **Early Queens and Bees bred for business** and beauty, nuclei or full colonies; sections and hives of best workmanship; **Dunham or Vandervort Comb Foundation,** send for my catalogue for 1885.

Address **J. P. H. BROWN,**
5A21t AUGUSTA, GEORGIA.

A PRIZE. Send six cents for postage, and receive free, a costly box of goods which will help you to more money right away than anything else in this world. All, of either sex, succeed from first hour. The broad road to fortune opens before the workers, absolutely sure. At once address TRUE & CO., Augusta, Maine.
51A1y

Bee-Keepers' Supplies.

We have added to our LARGE FACTORY a SPECIAL DEPARTMENT for the

Manufacturing of Bee-Hives,

AND

White Poplar Dovetailed **SECTIONS.**
Also, One and Two-piece

☞ All Orders will be filled promptly at the

LOWEST FIGURES,

Send Stamp for Catalogue and Samples.

The H. F. MOELLER M'f'g Co.
1A26t DAVENPORT, IOWA.

WARRANTED ITALIAN QUEENS!

NO Cyprian or Syrian Bees ever introduced into this locality. One Queen in May, $1.50; six for $7.50; after June 15, $1 each; six for $5. Send for our **48-page Catalogue,** describing everything needed by bee-keepers. Address,

18A13t **J. B. MASON,** Mechanic Falls, Maine.

WEEKLY EDITION
OF THE
AMERICAN
ESTABLISHED IN 1861
OLDEST BEE PAPER IN AMERICA
BEE JOURNAL

THOMAS G. NEWMAN,
EDITOR.

Vol. XXI. July 1, 1885. No. 26.

APICULTURAL NEWS ITEMS.

EDITORIAL AND SELECTED.

A working bee but seldom
  Turns from his way to sting ;
But he must have a world of room
  To give his body swing.
That which he claims is yielded,
  We're apt to think him right
Who works to win, who wins to keep
  And can both work and fight.

Thos. G. Newman & Son will publish the AMERICAN BEE JOURNAL hereafter. The editorial department will be conducted, as heretofore, by Thomas G. Newman, and the business department by Alfred H. Newman. The firm will (as before the division, 5 years ago to-day), carry on the business of publishing the BEE JOURNAL, books and pamphlets, and keep for sale the usual assortment of bee-keepers' supplies.

Statistical Crop Reports.—Mr. N. W. McLain, the Agent in Charge of the Apicultural Station, of the U. S. Department of Agriculture, Division of Entomology, at Aurora, Ills., writes us on June 19, 1885: "Let me thank you for establishing the apicultural news page in your paper. I regard it as a valuable feature, and from it I shall get many hints valuable to me in my work. I hope, by the beginning of another year (before then if possible), to have a full force of correspondents, from whom full and reliable reports may be had on the first of each month, from all parts of the United States, and I expect then to issue bulletins giving full information concerning the industry."

Bees and Drouth.—A Melbourne correspondent of the *Dundee Advertiser*, narrates what he considers an interesting proof of the provident and far-seeing instinct of bees: "Turning from men to insects, a singular circumstance is reported from a hot, dry valley in New South Wales. Last year the drouth there was of long duration, and the denizens of the apiaries suffered much from it. This year the bees have made provision against a similar emergency. They have filled a large number of the external cells in every hive with pure water instead of honey. It is thought that the instinct of the little creatures leads them to anticipate a hot summer.

It all Helps.—Let no one fear because of being opposed ! Did ever a ship sail to any haven in a dead calm ? Even a head wind is better than none. Kites rise *against—not with* the wind. A certain amount of opposition is therefore healthy, and it all helps energy and self-determination.

The Editor of the British Bee Journal is Dead.—We learn with regret of the death of the Rev. Herbert R. Peel, on the 2d of June. Mr. Peel has lately suffered greatly from gout in the head and eyes, and was found dead in his library. He was shot ; but just how, is not yet determined—probably by his own hand.

The London *Standard* says: "The deceased having been missed from luncheon, and the door of the study being locked, entrance was effected by the window, when the reverend gentleman was found lying on the hearth-rug, shot in the left breast, with a double-barrelled gun at his feet, one barrel of which had been discharged, it is supposed, with the aid of a poker which was by the side of the deceased. Death must have been instantaneous. The deceased had suffered greatly from gout in the head and eyes. The jury returned a verdict to the effect that death was caused by a gunshot wound, but there was no evidence to show how it was inflicted. Mr. Peel was a son of the late Dean of Worcester, and a nephew of Sir Robert Peel, the eminent statesman."

Mr. Peel resided at Thornton Hall, Buckingham, Eng., and was, until last year, Secretary of the British Bee-Keepers' Association, a body which he has spent much time and means in organizing and supporting.

He was also, since January, 1883, the editor and proprietor of the *British Bee Journal*, concerning which the the *London Journal of Horticulture* remarks as follows : "Under Mr. Peel's management, the *British Bee Journal* for some years has been published once a fortnight, whereas formerly it was issued only once a month. Its circulation has largely increased, and the most advanced bee-keepers from all parts of the globe enrich its pages. The compliments paid to its proprietor (Mr. Peel) are only his due, for he has done more to advance bee-keeping in England than any Englishman living ; and the extraordinary advance of apiculture in England during the last five years must be attributed chiefly to Mr. Peel and the band of friends whom he has attracted to himself by his ability, energy, earnestness, and philanthropic desire to do good to his fellow countrymen. Mr. Peel has made a mark for good, and richly deserves the gratitude and esteem of all right-minded men."

The AMERICAN BEE JOURNAL extends its sympathy to the afflicted family.

Quite a Haul.—The Poughkeepsie, N. Y., *Courier*, of June 7, 1885, contains the following item concerning the "find" of one of the BEE JOURNAL'S family : "A few weeks ago, Mr. E. R. Newcomb, of Pleasant Valley, N. Y., took from between the clap-boards and lath of the side of Martin Ruger's house at Pleasant Valley, 125 pounds of fine honey, and succeeded in saving the colony of bees, which were soon after placed in a hive. Mr. Newcomb has a large apiary at Pleasant Valley, and has been very successful in the culture of bees."

"Notify me when the Money is wanted," is what many say who fully endorse the defense of the pursuit of bee-keeping, and want to become members of the "National Bee-Keepers' Union." That is very well, as far as it goes, but no one is a member until the membership fee and first assessment are paid When these are received, we will send a copy of the Constitution to be signed, and a blank vote to be filled up for the election of the officers for the ensuing year. It would not be reasonable to expect the Manager to write to each one separately. Matters must be simplified, and the business done in a business-like manner. Members will be kept informed concerning the affairs of the Union, through the bee-papers. Now, let the membership fee of 25 cents, and one dollar for the first assessment, be sent in *lively*, and let us make a *united stand for our rights*.

The Annual Catalogue of the Michigan Agricultural College, located near Lansing, Mich., is on our desk. It contains a full page illustration of the college and grounds, also a map indicating the position of the various buildings and fields of the farm belonging to the institution, besides a quantity of useful matter, describing the different departments and their management. This is the oldest existing college of its kind in the country, being 28 years old. Those wishing copies of the catalogue can address Prof. A. J. Cook, of apicultural fame, who has in charge the Departments of Zoology and Entomology, and who will doubtless deem it a pleasure to forward them to such of his apiarian friends as may desire to learn something about this class of colleges.

California Honey Crop.—The following report of the honey season in California, from a correspondent in that State, dated June 9, 1885, will doubtless be interesting to our readers. Does it not furnish a pointer to the honey-producers of the country, as to the future of the honey market ? A light crop in California means better prices all around, now that Foreigners are finding out what a good thing American honey is—to take : "Reports from all quarters of Southern California agree that while the bees are in good condition, they have not stored much if any surplus honey, and in some localities they have actually reduced their stores very materially. The cool nights and windy days of the past month have not been favorable to the development of honey-producing flowers or the secretion of nectar. Both sorts of the sages are in bloom, but they afford little honey as yet, and what is stored is not in any respect equal to the honey obtained in the same sections last year at this date. The low price of honey quoted in all the markets is not encouraging, but the value of other commodities are about on a par with honey. Sugar competes somewhat with honey, and the price of that article points still downward in the principal marts of the world, and it is not reasonable to suppose that honey will advance in price very materially, until sugar regains its lost ground to some considerable extent, not only in the United States, but in European countries where a very large quantity of our last year's crop of honey found customers, who paid better prices for our product than could be obtained at home, or on the east of the mountains."

Responses from the Editors.

We wrote a letter to each editor of the bee-papers in the United States, asking them if they would accept the offices under the temporary organization of the National Bee-Keepers' Union, to which we nominated them on page 387. Our readers will be pleased to read the following replies, which show how they feel about the work proposed by the Union. It is very gratifying to notice the harmony prevailing, and we hope it will grow to a permanent bond of union. Mr. Hill has not replied.

Mr. A. I. Root, Editor of "Gleanings in Bee-Culture," Medina, Ohio, on June 22, 1885, writes as follows: "Yours of June 19 is at hand. I most cordially and cheerfully consent to anything I can do to further the interests of the National Bee-Keepers' Union (for I have read what has been said in regard to it in the AMERICAN BEE JOURNAL), with this proviso, that my health is now so that I could not take up any laborious work in regard to it. If my influence and my share of the expenses will help, both are at your service."

Mr. A. J. King, Editor of the "Bee-Keepers' Magazine," New York, N. Y., on June 24, 1885, writes thus: "The matter you write of has my entire approbation, and if some one more fit for the place I am to work in, does not occur to the minds of bee-keepers, I will accept and do what I can to help on the good cause. Our industry certainly does not receive the recognition in any regard to which its importance entitles it. We have a broad field in which to fight the battles of scientific fact, against the suppositions born of ignorance and sustained by superstition. Truth is ever aggressive, and I think it about time that bee-keepers recognize the fact, and cease to always occupy the defensive side of so many questions where their just rights are invaded. Let all sectional animosities of whatever nature or kind cease, and let us stand together, and act in concert with our dollars as well as our advice, and the outcome will more than justify our expectations."

Mr. Silas M. Locke, Editor of the "American Apiculturist," Salem, Mass., on June 22, 1885, writes: "Your favor came to hand this morning. You did right in calling upon me, and you can be assured that I shall most cheerfully accept even the most humble position, if through such I can benefit my brother bee-keepers whose interests are my own. Nothing is more essential to American apiculture and American bee-keepers than a well organized and permanent Union whereby our interests can and will be protected, and all individual interests should give place to the interests of the majority. If rightly organized and conducted, this Union will form the nucleus of a National bee-keepers' association of which we shall be proud. There is a great work to be done, and much is the good that each one of us can do by entering into this work with the one grand purpose of establishing a system of associations that will work together in perfect union and harmony. It is true that we as bee-keepers often disagree in our opinions regarding the best means for bringing these things about, but there is only one end toward which all our efforts should be directed. Let me say, be sure and have the honey-producing interests well represented in the Board of Advisors. We need the expert apiarist there, and as matters develop changes will suggest themselves which will prove materially beneficial. It is imperative, however, that a start be made, and a nucleus formed around which the bee-keepers from every State in the Union will rally. The Canadian bee-keepers need a distinct—a different—organization from ours, and yet they could co-operate with this. Whatever the past, I see in this new enterprise the promise of great developments. Would it not be a good plan to appoint some good man from each State to act on the Advisory Board?"

Mr. H. Scovell, Editor of the "Kansas Bee-Keeper," Liberal, Mo., in the last issue of that paper, says: "We have long thought that some system for co operative effort on the part of our North American bee-keepers should be inaugurated whereby each in enhancing individual interests could work for the good of all. Without some national union or effort,—local effort can at best have only a local effect, and no lasting or permanent good. We cast our vote for the "National Bee-Keepers' Union," and will do all that we can, in our feeble way, to assist in laying a permanent and sure foundation upon which to build a structure that will be of national and lasting benefit.

The ballots now being sent out will determine the election of the permanent officers. These ballots must be all returned before Aug. 1, 1885, when they will be counted, and the permanent officers will then be elected under the Constitution. Now, let us hear from all who want to become members, at once.

QUERIES

WITH

REPLIES by Prominent Apiarists.

Italianizing Colonies.

Query, No. 80.—With a view of being least liable to make mistakes or go wrong, how should a beginner manage to Italianize 10 or 12 colonies of black bees and their increase, with two tested queens from two parties?—Cresco, Iowa.

PROF. A. J. COOK answers: "Keep all drones down in black colonies, and stimulate the Italians. As soon as they are strong, and have drones, start nuclei; and, with young Italian queens, replace the German or black queens."

G. M. DOOLITTLE replies: "Let the queens be reared from one of the queens, and the drones from the other, keeping all black drones down."

JAMES HEDDON remarks: "By the use of all-worker combs, prevent all rearing of drones by your other colonies, and place plenty of drone comb with one of the queens, and rear queens from the other queen of the two you mention."

W. Z. HUTCHINSON replies: "Rear plenty of drones in the Italian colonies, allowing none to be reared in the black colonies. Start nuclei and rear queens from Italian brood; and give the Italian queens to the bees in place of their black queens."

G. W. DEMAREE says: "When I did my first Italianizing, I knew so little about queen-rearing, that I thought it best to resort to the following long, sure way: I waited for a swarm to issue and be hived in the usual way. Two days after the swarm issued. I destroyed all the queen-cells in the parent hive, and again 8 days later, I carefully destroyed every cell in the hive. If the work was thoroughly done, the colony was now hopelessly queenless. I now gave them a frame of brood containing eggs and larvæ just hatched, taken from my tested Italian queen. Now as to the swarm: I left the old black queen with the swarm till the 18th day from the time the swarm was hived; I then removed her, and two days later I gave the bees a queen-cell from the parent colony."

DR. C. C. MILLER remarks: "Get Alley's book, and use eggs or brood only from the best queen."

DR. G. L. TINKER says: "If working for great increase, as indicated in Query No. 79, it cannot be done. Better buy all the queens and supersede the black queens late in the season."

Honey and Beeswax Market.

Office of the AMERICAN BEE JOURNAL,
Monday, 10 a. m., June 29, 1885.

The following are the latest quotations for honey and beeswax received up to this hour:

CHICAGO.

HONEY.—Demand is light and receipts are also light. Prices range from 10@15c. for best grades of comb honey and for extracted, 5@7c.

BEESWAX—22@25c.

R. A. BURNETT, 161 South Water St.

BOSTON.

HONEY.—We quote the following prices: Fancy white comb in 1-lb. sections, 16@18c.; the same in 2-lb. sections, 15@16c; fancy white California 2-lbs., 12@14c. Extracted weak, 6@8c. Sales very slow.

BEESWAX.—32 cts. per lb.

BLAKE & RIPLEY, 57 Chatham Street.

NEW YORK.

HONEY—We quote: Fancy white clover in 1-lb sections, 14@15c; fair to good white clover in 1-lb. sections, 12@13c; fancy white clover in 2 lb. sections, 13@14c; fair to good white clover in 2-lb. sections, 11@12c; fancy buckwheat in 1-lb. sections, 9@10c; fancy buckwheat in 2-lb. sections, 7@8c. ordinary grades, no sale. Extracted white clover, 7@8c; extracted buckwheat, 6@6½c.

BEESWAX—Prime yellow, 26@29c.

MCCAUL & HILDRETH BROS., 34 Hudson St.

CINCINNATI.

HONEY—There is no change whatever in the market, which has been without life for some time. We have a good class of regular customers who use considerable honey, while outsiders can hardly be induced to purchase. We quote extracted at 4½@8c, and comb honey at 9@12c, on arrival.

BEESWAX Demand is good and it brings 23@28 on arrival, for good yellow.

C. F. MUTH, Freeman & Central Ave.

SAN FRANCISCO.

HONEY—The market is quiet, there being no shipping demand and not much local trade. There are receipts of both old and new. One lot of 200 cases of old extracted arrived from San Jose. White to extra white comb, 7@9c; dark to good, 4@6c; extracted, choice to extra white, 4¾@5¼; amber colored, 4@4½.

BEESWAX—Quotable at 24@25c—wholesale.

O. B. SMITH & CO., 423 Front Street.

CLEVELAND.

HONEY—Is very dull just now during strawberry time, and although we hold at 14@15c per lb. best white 1-lb. sections, it is merely nominal, as there are no transactions. As soon as our people have satisfied their craving for acid fruits, they take very kindly to nice white honey, and we may look with confidence to a good demand in July, August and September.

BEESWAX.—Scarce at 28@30.

A. C. KENDEL, 115 Ontario Street.

KANSAS CITY.

HONEY—Demand is light and prices weak. We quote choice ½-lb. sections, 15@16c; 1-lb., 13@14c; 2-lb., 10@11c. Extracted, 5@6c, according to quality. Half-pound sections of comb honey are in demand.

BEESWAX—25@30c.

CLEMONS, CLOON & CO., cor. 4th & Walnut.

CORRESPONDENCE.

Explanatory.—The figures BEFORE the names indicate the number of years that the person has kept bees. Those AFTER, show the number of colonies the writer had in the previous spring and fall, or fall and spring, as the time of the year may require.

This mark ⊙ indicates that the apiarist is located near the centre of the State named: ♁ north of the centre; ♀ south; ⊶ east; ⊷ west; and this ♂ northeast; ⊸ northwest; ⊸ southeast; and ♀ southwest of the centre of the State mentioned.

For the American Bee Journal.

That Sheep-Bees Lawsuit.

16—G. M. DOOLITTLE, (80—40).

It was with a feeling of both interest and disgust, that I read "Is the law against bee-keeping?" by Mr. S. I. Freeborn, on page 346, as it aroused in me an interest to have the world at large know through this proposed lawsuit, that bee-men were not to be scared by jealous landowners, who, if they only knew it, are largely benefited by our bees. This interest has increased day by day, as I saw the way clear how this case could be easily carried in the negative, thus giving the apiarists a test case, which could be cited to any jealous individual. I was also disgusted to see how easy it was in this case, for a man to forget the reasonable, and let his envy and jealousy carry him so far as to try to make an innocent and helpful insect bear the loss of sheep, which could not in the least be affected by the honey-bee, as long as the sheep were away from the apiary. Aside from the fact that a bee while foraging is always timid, and will flee away upon the least disturbance of the plant upon which it is at work, there are two things which will surely defeat the complainer; the first of which will especially apply to this case, and the latter to any and all complainants.

Now, all sheep-raisers know, and will so testify unless they willfully misrepresent, that during warm, sunshiny days (which are the days when bees visit the clover), sheep only feed in early morning and at evening, while from 9 a. m. to 5 p. m. they will be huddled together in some fence-corner, or under the shade of some tree. Many a shepherd has become incensed in trying to make sheep follow him, or in trying to change them from one pasture to another, during that time of day, and the saying is common, "As stationary as a sheep in midday." This fact will prove to any judge or jury that the statement, "The bees came in countless hordes and drove the sheep from the pasture," cannot be true, for at the time of day when the bees work on white clover, there could be no sheep feeding, as the two do not feed at the same time. If Mr. Freeborn should ask of all (through the BEE JOURNAL) who kept both bees and sheep, to send him a written statement in corroboration of the above fact, he whould get scores of testimonies to present to the court which could not be contradicted.

The second point is one which will apply in all cases, which is to require the complaining party to prove the ownership of the bees which are doing the supposed damage. From past experience I have been led to believe that bees go from 3 to 5 miles from their hives, from choice, to gather honey, and allowing this to be correct, who can tell whose bees are at work upon the white clover, fruit bloom, or grapes growing on their land. I do not believe that the complainer will even attempt to prove that the bees seen on his clover were all Mr. Freeborn's, and if they were not all Mr. F's, how does he know that any of them were? If bees from the forest and other apiaries visited his field, it is not reasonable to require Mr. F. to stand all the damage; and if the whole cannot be placed upon him, how can any part of it. I think that with the help of a shrewd lawyer Mr. F. has no grounds to fear that the suit can go against him. The whole arises from the idea going abroad that "bees work for nothing and board themselves," and any successful bee-keeper will have many jealous persons about him, because such persons try to make themselves believe that the bee-keeper is doing no hard work, and yet is getting rich off of the broad acres, brought into cultivation by their hard labor. Only a little while ago I was told that a rich neighbor said that I ought to give one-half of all I possessed to him, for my bees had gotten their honey off of his farm.

As to the plan proposed by Mr. Heddon, on page 347, to help carry on this lawsuit, I will say that I am perfectly agreed; but do not let us stop with the defensive only, but let us push the thing until every adulterator of honey and all those originating stories to our damage, like the Wiley "scientific pleasantry," are "driven to the wall." On page 339, I see that there are 500,000 persons keeping bees in America, which will give us a fund, at one dollar each, of $500,000. This will be a mighty lever to move things in our favor, either in defense or by prosecution.

Borodino,⊙ N. Y.

Home Farm.

Managing an Apiary for Profit.

J. B. MASON.

There are three ways of managing bees for profit; viz: 1. Increase. 2. Extracted honey. 3. Comb honey. If increase is the object, and the apiarist has several colonies to work with, he should commence by removing one frame of brood, as near hatching as possible, from each of 4 colonies, shaking the bees all off from the frames in front of their own hives, and replacing the frame of brood with a frame of foundation or empty comb. Place these four combs of brood in an empty hive; now, from a fifth colony, which should be the strongest of the five, take a frame of brood, bees and all, being sure not to get the queen; place it in the hive with the other four combs, fill the empty space with a frame of foundation, and remove the old hive to a new location, putting the new hive on the stand of the old one. The new hive now contains four frames of brood, and one frame of brood and bees, and the flying bees from the old hive. The most profitable way now, is to give the new colony a laying queen, and in one week they can be classed with the others, to draw from, in making new colonies. In this way bees can be divided every four days throughout the entire honey-flow, and even longer, by feeding regularly every day. Care should be taken to take the bees from a different colony at each time of dividing. In this way a large increase can be had, and it is perfectly safe, as it will readily be seen that we never cripple any one colony, but all are kept strong.

If one does not wish to use laying queens on account of their cost, then queen-cells from the first made colony should be used as far as possible, by giving one on the next day after making. If there is but one colony to increase upon, the best method is to take out the frame containing the queen, with bees, and place it in the empty hive, then shake the bees from one more comb into the new hive, fill the vacancy in the old hive with another frame, or close up the division-boards, fill the new hive with frames of foundation, and remove the old colony to a new stand, placing the new one on the old stand; if possible, give the old one a laying queen, and they will be ready to divide again in a week or ten days, and again in the same length of time as long as the honey-flow lasts.

If no laying queen is given, the colony should be divided again the tenth day from the first division, being sure to give each one a frame containing a queen-cell. The frames containing the queen-cells must be handled carefully; no bees should be shaken from them. The colony should be divided about equally, allowing for the many bees that will go back from the removed hive. No more increase should be expected from those colonies. In two or three weeks those containing the young queens should be looked over to see if their queens are successfully mated. If no eggs or larvæ are found by the twenty-fifth day, the queen has probably been lost in mating, which is sometimes the case, and the colony will have to be united with some other one, or given a laying queen at once. If one has time and patience to watch the bees, and is willing to risk the liability of their going to the woods, or the trouble of getting them down from high trees, he can let them swarm naturally. Some bee-keepers think this the best way, but the larger number do not.

If surplus honey is the main object, and the apiarist decides to use the extractor, the road is clear; and even a novice in the business need not fail if there is honey in the flowers. When the bees begin to lengthen out the cells at the top of the frames with new white comb, it shows that they are bringing in honey, and the upper story should be put on, filled with frames of empty comb or foundation, and as fast as they are filled with honey they should be extracted, which in many cases will be as often as every three days through the best part of the honey-flow. If any great amount of honey accumulates in the lower story, it must be extracted, so as not to cramp the queen for room below, otherwise she may be tempted to move "up-stairs." The honey should be put in open vessels to ripen, with a cloth spread over them and placed in a warm place.

When the honey-flow ceases, the feeder should be placed on, and the bees fed a little sugar syrup, just enough to keep up breeding until another honey-flow. This method of producing honey is thought to be the most profitable, as twice the amount of honey can be secured, and no trouble is found by swarming, as the combs are kept empty.

Next is the production of comb honey, which is more difficult, and is attended with more liability of failure. It requires more study and thought, as it is managed very differently. When the new looking comb appears at the top of the frames, if a ten-frame hive is used, the outside ones should be removed and laid away for future use; or if there is brood in them, use them to strengthen other colonies. Now put the two chaff division-boards in, one on each side of the hive, reducing it to a seven-frame hive, and crowding the bees that were on nine or ten frames, upon the seven; and if there are any queen-cells started destroy them. Now put on a case of sections, and the bees being uncommonly crowded for room, if for no other reason, will go into the sections and commence work there.

Look occasionally to see how they are progressing in the sections, and when you see that they have commenced sealing over the honey in the centre of the sections, all the middle ones will be completely sealed, and should be removed, and those not sealed over moved into the centre, and enough empty ones put in to fill the case. This should be repeated as often as those in the centre are completely sealed over. If the colony should swarm out, then go to the old colony at once, take out one frame, as free from brood and honey as possible, with the bees on it; if there are any queen-cells on the comb, be sure to destroy them; place it in an empty hive, with six frames of foundation. Take the case off from the old hive and put it on the new one. Now hive the bees and set the new one close to the old one, turning the entrance one-fourth around, thus the working force will be in the sections just as they were before they swarmed.

On the evening of the third day, turn the entrance of the new hive around so that it will stand the same as the old one does; and on the evening of the seventh day from the time they swarmed, move the old hive to a new stand, and slide the new hive into the old one's place. Just at night on the eighth day, the old colony should be examined to see how many bees are left. If more than three pints remain, shake or brush all above that amount in front of the new hive. This method gives the best results of any that I have ever tried, as all the working force is kept together. If no increase is wanted, then instead of moving the old hive, let it remain, and as fast as the brood hatches shake it in front of the new hive until it is all hatched.

Mechanics Falls, ♀ Maine.

California Convention and Picnic.

The bee-keepers' convention was held in the grove at Hanford, Calif., on June 3, 1885. It was called to order by the President, F. J. Otis, of Selma, and after roll-call all seemed to tell the same story, that bees were doing very badly, and barely making a living—in many cases requiring feeding. Such a state of affairs has never been known here before. The cause seems to be that the grasshoppers are taking all the green things before they can bloom, leaving the bees destitute.

The convention then adjourned for dinner. Cloths were spread and well covered, in the abundant shade, and the bee-keepers, young and old, were almost as active as bees around them for about half an hour. When the meeting was called to order again, they had a much more cheerful appearance.

Mr. Decker showed some sick and dead bees, which had a strange disease, new to our bee-men. The sick bees become shiny and weak, and the strong ones pack them off and throw them away, having no further use for them. The yellow-banded bees are affected, but no blacks yet. A committee was appointed to investigate the matter and report.

Mr. Wheeler showed his section-closing machine, which seems to work very well on the one-pound sections, and will be an acquisition to bee-keeping.

George Hobler, *Sec.*

For the American Bee Journal.

Wintering Bees on Honey & Pollen.

W. G. FISH.

On page 359, Mr. Heddon asks, "Who, by any method of wintering, can show 151 days' confinement and no discharge, where sugar-syrup is not used?"

My bees were placed in the cellar on Nov. 19, 1884, with sufficient stores of honey and pollen, just as they had gathered it, no pains being taken to remove any of the pollen, and the honey was all fall honey. My cellar is a large house-cellar in which are stored potatoes, apples, etc., and has ample means of ventilation. The temperature was at no time above 45°, and sometimes it dropped to 28°, and the atmosphere was rather moist, so much so that frost would sometimes gather on the walls. The bees remained normally quiet all winter, and were put upon the summer stands on March 20, 1885, having been confined 152 days (one day longer than Mr. Heddon's bees), and had a flight on the same afternoon.

My hives are painted a very light color, which would easily show spots, such as are made by the discharge of bees generally at their first spring flight, and though I watched closely, I could find no spots or other signs of a discharge, either wet or dry, upon the hives or anything else about the apiary. A few colonies in box-hives, which were wintered by the side of the others in the same cellar, delivered a wet discharge upon their first flight, but upon no succeeding one could any discharge be seen. These colonies had stores which were gathered during the whole season, and which, perhaps, included some honey-dew.

I do not claim that these facts disprove the pollen theory, the discussion and development of which I have followed with considerable interest, but I give them in answer to Mr. Heddon's question.

That these bees did not hibernate, according to the common acceptance of the term, I am well satisfied, from the fact of there being a dull, half-subdued hum constantly audible from each hive, proving that at no time was there present that perfect quiet which is a condition of hibernation.

Ithaca, ♀ N. Y.

For the American Bee Journal.

Report for the Winter of 1884-85.

J. E. POND, JR.

I do not know as a report from 10 colonies will be considered of any value by some, but others, perhaps, may think differently. My experience during the last winter has tended to convince me more strongly than I was convinced before, of the incorrectness of the "pollen theory."

In preparing 10 colonies in single-walled hives for wintering on the summer stands, I left them such stores as they had gathered, taking pains to leave in each hive as large an amount of pollen as possible. I unfortunately was taken ill in the latter part of February, and was unable to get out to examine my bees till about the middle of May, when I found that 2 colonies had eaten all their stores and perished. These 2 colonies were as well provided with stores as the others, having at least 25 pounds of sealed honey; some of the other colonies did not consume more than 12 or 15 pounds of honey during the same time. I think that a good point in breeding is to perpetuate, if possible, the trait of small consumption during the winter.

Had I believed in the pollen theory, I should have expected to find all my bees dead from bee-diarrhea, with hives and combs befouled terribly; instead thereof I found the combs of the 2 colonies that died, as clean and dry as they well could be, and the remaining 8 colonies in as good condition as any I have ever seen at that season. The combs were all dry and clean, the bees lively, with no signs whatever of disease, and with a large quantity of young bees and brood.

In preparing these colonies for winter, I left all the frames of comb in the hives (ten-frame single-walled Langstroth), putting a woolen blanket on the frames, and filling an upper story with forest leaves pressed loosely down. I gave all the full entrance, viz: ⅜ of an inch, and the whole width of the hives.

For 16 years I have wintered my bees in Langstroth hives, on the summer stands, with no loss whatever from disease. I have always left them their natural stores, and I have never taken any pollen from them During that time I have kept from 5 to 50 colonies, and I desire it "to be recorded," that the "pollen theory" is wholly incorrect, so far as my own apiary is concerned. Its originator admits that if the "conditions are right," pollen will not kill bees, or cause disease among them; this, to me, looks like an admission; at any rate I find no disease caused by pollen in my apiary, and have no fears in regard to the matter, and so long as I winter my bees without loss, just so long I shall continue the practice of the last 16 years or more.

Foxboro, Mass., June 13, 1885.

For the American Bee Journal.

Johnson Co., Ind., Convention.

The annual meeting of the Johnson County Bee-Keepers' Association was held at Franklin, Ind., on April 4, 1885, with President C. H. Hall in the chair. The Secretary's and Treasurer's reports were read and approved. President Hall then read his annual address on "The Classic Bee," as follows:

I bring for your consideration the "classic bee"—with which, in all probability, I am better acquainted than you—the bee of Homer and Virgil, of Athens and Rome.

Among the earlier students of the habits of the bee are the Greek scienist and logician, Aristotle; and Rome's famous poet, Virgil. In this address I shall simply give some things which I have gathered mainly from Virgil, and other sources.

Honey was an article of diet much esteemed by the ancients, and in more common use than to-day. Sugar was scarce, or entirely unknown then as we know it now, and honey was the main dependence for their sweet. The honey of Mt. Ida, in Crete, and from Hymettus, in Attica, is justly famous for its fine quality and delicious flavor. There was a great abundance of honey in those old classic lands, abounding as they do in sunshine and flowers, in cliffs and rocks, in hills and valleys, and having winters so brief and mild. But it is not the famous honey, nor its great abundance, nor their splendid appetite for it, of which I wish chiefly to speak, nor in which you will find most to interest you; but rather, their knowledge and management of the bee and some of their peculiar ideas concerning it. For these conceptions and ideas I am wholly indebted to Virgil, whom I cordially commend to all who seek for the poetry and praise of the "Classic Bee."

1. Their method of keeping the bee: They were particularly choice of the spot where they should place their colonies of industrious toilers. The hum of the bee should not be marred by any rudeness of sound or uncouthness of approach or surroundings. The perfection of the sweet at least made a perfect home of the bee an appropriate object of care and thought. The poet demands that the place shall be one where no wind blows, for when the bees, laden with liquid sweetness gathered from a thousand flowers, wearily drops at the entrance of their treasure-house, no rude blast should sweep them aside and delay their return. Neither shall their place be where the frisky kids may tread down the fragrant flower and entangle the half-laden toiler, nor "heifer, straying in the plain, spurn off the dews, and bruise the rising herb." The place must be the resort of no lizard with speckled, scaly back, nor shall the woodpeckers and swallows haunt their quiet abode. They lay waste and ravage around the hives and catch on the wing the honey-laden bee and bear it as food for their young. Springs of pure, sweet water should be near by, or "pools edged with green moss, and a gentle rivulet swiftly running through the meads."

There should be close beside their home the stately palm and the grateful wild olive, on which may gather the circling swarm when forth they leave their old home to seek the new under the guidance of their queen. In the silent pools, and rippling rivulets and sweet springs should be scattered rocks and logs of willow to serve as places of rest for the wearied bee that pauses in its flight and seeks to quench its thirst. "Around these places let green cassia, and far-smelling wild thyme, and plenty of strong-scented savory, flower; and let beds of violet drink an irrigating fountain."

Their hives are made of hollow bark, stripped, no doubt, from trunk of tree, or huge limb, and having the end covered, it is natural to suppose, with bark, or thatch of straw, or plaited willow. Other hives are made of timber osier woven, no doubt, into shapes pleasing to the eye and gratifying to the taste of the observer as well as accommodating to the honey-gatherer. The inlets to these hives, whatever their form or kind, must be small. The cold of winter congeals the honey, and the heat of summer melts it, and each result alike is dreaded by the bees. The chinky chambers of these hives are to be daubed with smooth mud, and over them thinly are leaves to be scattered; "and suffer not a yew tree near their lodges, nor burn in the fire the reddening crabs, nor trust them to a deep fen, or where there is a noisome smell of mire, or where the hollow rocks resound on being struck, and the struck image of the voice rebounds."

2. Some of their ideas about the bee: They looked upon a colony of bees as a government composed of officers and workmen. The leader of the host was called a "king," and they seem to have had no such conception as that it was a female and the mother of the whole colony. Virgil says that there are two kinds of "kings" in the colony; the one he describes corresponds closely to our queen of to-day, the other, beyond all question, is the drone, which "is horribly deformed with sloth, and ingloriously drags a large belly."

Speaking of the roving inclination of the swarms, he gives a rule by which they may be content to remain in their hives—a rule not unknown or unobserved to-day by some. It is, "Do you but clip the wings of their "kings," not one will dare, while they stay behind, to fly aloft, or pluck up the standard from the camp."

The subjects of the "king-bee" fall into three classes of workmen; viz: those that work in the wax "building the combs downward," those that guard the hive, the stores, the young in their waxen cells, and those that gather from flower and fruit the "clammy honey." Virgil says: "The elder have the care of their towns, and to fortify the combs, and frame the artificial cells; but the younger return fatigued late at night, their thighs laden with thyme; they feed at large on arbistes and gray willows, on cassia and growing crocus, on the gummy lime, and deep-colored hyacinths. All have one rest from work, all one common labor."

They thought that the germs from which come the young brood, were gathered from the hearts of flowers and leaves, borne to the waxen cells and there nourished until matured. "But they themselves," says Virgil, "cull their progeny with their mouths from leaves and fragrant barks; they themselves raise up a new 'king' and little subjects, and build new palaces and waxen realms." Some of them also thought that the bee partook of the divine nature, and "that a portion of the divine mind, and a heavenly emanation may be discovered in bees."

The instructions to him who would gather the honey from the hive are, "Sprinkled as to your body, gargle your mouth with a draught of water, and bear in your hand before you the searching smoke." They thought that the life of a bee was seven years, unless cut off by some accident, and that one's fortune was good when a colony lived nine or ten years.

When their colonies all perished as yours and mine have nearly all done during the past winter, they have a tradition as to how one may replenish his stock: "A bullock, just bending the horns in his forehead, two years old, is sought out; while he struggles exceedingly, they close up both his nostrils, and the breath of his mouth; and when they have beaten him to death, his battered entails are crushed within the hide that remains entire. When dead, they leave him pent up, and lay upon his sides fragments of boughs, thyme, and fresh cassia. This is done when first the zephyrs stir the waves, before the meadows blush with new colors, before the chattering swallow suspends her nest upon the rafters. Meanwhile the juices, warmed in the tender veins, ferment; and animals, wonderful to behold, first short of their feet, and in a little while buzzing with wings, swarm together, and more and more take to the thin air, till they burst away like a shower poured down from summer clouds; or like an arrow from the whizzing string, when the swift Parthians first begin the fight. . . Bees through all the belly hum amid the decomposed bowels of the cattle; pour forth with the fermenting juices from the burst sides, and in immense clouds roll along; then swarm together on the top of a tree, and hang down in a cluster from the bending boughs."

I trust that these isolated and peculiar views on a subject of such practical interest to you may not be uninteresting.

Prof. D. A. Owen, of Franklin College, was elected an honorary member. Mr. Owen then made a brief and interesting address on the benefit of the association to the bee-keepers. The following officers were then elected by acclamation: President, C. H. Hall, of Franklin; Vice-President, J. T. Ragsdale, of Trafalgar; Secretary, L. R. Jackson, of Urmeyville; and Treasurer, Mrs. Phebe J. Felly, of Franklin.

The President asked what damage if any the roach does in the hive. Messrs. A. T. Kelly, John Beard, and the Secretary thought that it does no damage, but it gets into the hive to hide, and probably for a warm place to lay its eggs above the cushion.

The cause of the great mortality of bees during the past winter was then discussed. Mr. A. T. Kelly noticed bees dying around the hive early in the fall, and found a line of dead bees to a lot of boneset, and found dead bees on and around it. He thinks that the cause of death. The Secretary noticed bees working on boneset, and he looked for dead bees around it, but found none. He thinks the cause is from juices gathered from decaying fruit during the drouth in the fall, and the long confinement of winter.

From 255 colonies, last fall, only 78 colonies are left, and many of them are very weak. It was thought that 90 per cent. of all the bees in the county are dead.

Some one asked whether the honey the bees died on would be fit for table use. Mr. Bishop and A. T. Kelly thought that the sealed honey was good; Mr. J. Beard advised keeping it to feed the bees and build up colonies strong as early as possible, and increase the bees so as to fill up the old hives as fast as possible. Mr. A. T. Kelly would fumigate the combs and put them in the house until ready to be used.

The convention adjourned to meet in the same place on the first Saturday in October, 1885.

L. R. JACKSON, *Sec.*

C. H. HALL, *Pres.*

For the American Bee Journal.

The Season, Hibernation, etc.

ALLEN PRINGLE.

The honey season is just opening here in this latitude. True, we have had a honey-yield, more or less, for the past four or five weeks from the maple, the willow, the dandelion, etc.; but we scarcely call it a honey-flow till the clovers open out. To-day the Alsike and white clovers are introducing their rich and fragrant bloom to our admiring gaze, and in a day or two our little industrious wards will doubtless be revelling in their inviting sweets. I regard the Alsike clover as our staple honey-plant here, and I sow it liberally. It also makes good hay—better than the red clover. It has a finer fibre, hardly ever lodges, and is better relished by stock than any of the other clovers with which I am acquainted. It also generously produces seed when the red produces none; in this section the red has produced very little seed for the past few years, while my Alsike has yielded abundantly. The seed is taken from the first crop. When cut for hay before the seed ripens, it will bloom a second time, but the after-bloom does not always yield honey.

As about 75 per cent. of the bees in this district died during the winter and spring, there is unfortunately only a small force comparatively to take hold of the splendid yield which the season promises. Some lost all, while others saved but a fraction. My own, I am glad to say, were more fortunate, as I only lost a few colonies out of 30 wintered outside and 60 in the cellar.

I see that Mr. Clarke is still laboring over the "hibernation theory;" and, to use a provincialism, "going it for all he is worth" to "prove points and establish things." Well, as I have said before, I do think there is some truth in the notion, and I would not discourage laudable investigation by throwing one drop of cold water on "hibernation." When our good friend Prof. Cook coolly and laconically wrote "bees do not hibernate," he made a terrible mistake—for himself. He might have known that he would get just what he has got. But, unlike professors generally, he is a proverbially good-natured soul, and hence owns up and takes it easy. Mr. Clarke will either prove "hibernation" or do something else with it before he stops.

But I allude to this subject in order to correct Mr. Clarke on one little point in his last article on page 361. He makes "objection to cellars and bee-houses" because they "keep the bees closely confined in darkness, preventing the old bees from going outside of the hive to die." I submit, respectfully, that this is an error. Neither the cellar nor the darkness prevents the old bees from going out of the hive to die. Every winter my cellar bee-house, which is perfectly dark, is literally strewn—the sawdust floor—with old defunct bees that come out of the house, fly or jump from the alighting board to the ground, and die decently and quietly as becomes them. These do not die of disease, for such can, to the experienced eye, be readily distinguished of old age.

One word in regard to Mr. Joshua Bull's article on page 363: As an answer to mine on page 266, it is, I should think, a rather curious production. This must be patent to all critical readers. And because the discussion is "drifting to personalities," our indulgent editor asks us to "let it stop here." Well, it was unnecessary to do even that, for I have no time to waste in that direction.

Selby, Ont., June 15, 1885.

For the American Bee Journal.

The Wintering Problem.

L. C. JOHNSON.

Again and again and yet again will this question come up until we shall winter our bees as successfully as farmers winter their calves. Slowly we learn. Prior to the past winter, Mr. James Heddon with all his great experience and keen observation (and they are great), saw in pollen the only danger; but after losing $1,500 worth of bees, he now sees another great danger in long continued cold, and he says that he now feels sure that his knowledge insures him against any farther loss in wintering. He also says: "I am sure that I see clear enough to not only wander out of the darkness, but lead out my companions." I would suggest that Mr. H. wait until he has tried his new theories, and has been successful at least one winter. For the past three winters I have been successful in wintering my bees, having lost but one colony, and that the mice destroyed winter before last.

On page 359, Mr. Heddon asks, "Have the successful ones known *why* they were successful?" Now my experience is too small to say that I *know*, but I *think* that the following were the reasons *why* I succeeded in wintering well *all* of my 26 colonies out-of-doors last winter:

1. They were so thoroughly packed as to keep them warm. They were wintered in one-story Simplicity hives placed side by side with 8 inches of sawdust or 10 inches of chaff and two walls between the bees and the weather.

2. They had 30 pounds of honey or sugar syrup in each hive.

3. They had the full summer entrance open below, save in extreme cold weather (10° to 30° below zero), when a shovelful of snow was thrown over it. Above the bees was chaff or dry sawdust, so they had pure air and could fly whenever the weather would permit.

I would like to hear whether any of the readers of the BEE JOURNAL lost heavily, who gave their bees this much protection against the cold, with pure air and abundance of food given early. I have reports from nearly 300 colonies (fall count) in this county (Wayne), and of these 190 are dead. I know of but one man in the county beside myself, who supplied all of the above conditions, and he lost no colonies, and I lost none.

Besides the 26 colonies spoken of above, I put into my cellar one strong colony having an abundance of honey and pollen. On March 1 they had not the *diarrhea*, but the dysentery*, and that badly, at least the hive, combs and bees looked bad and smelled worse. The bees were then taken out and put into a chaff hive outdoors, and they ultimately recovered, though they were the weakest colony I had.

Of the 26 colonies wintered outdoors, 16 had honey and pollen, 5 had sugar syrup and pollen, and 5 had syrup alone. The latter reared no brood until I fed them pollen in the spring; all wintered well and none had the diarrhea. Of these 26, the 3 hybrid colonies wintered well, the 12 Italian colonies better, and the 11 Syrian colonies best.

Fountain City,○+ Ind.

[Mr. Johnson's use of the word dysentery instead of diarrhea is not borne out by Webster's Unabridged Dictionary. To have dysentery, there must be "griping pains" and a "discharge of mucus and blood."—ED.]

For the American Bee Journal.

Wintering Bees, etc.

C. L. RICE.

Probably there is no one particular branch of business in which there is so great a diversity of opinions in regard to the most feasible method to pursue to bring about the most favorable results, as there is in modern bee keeping. It is presumable that this confusion of ideas and differences of opinions arises chiefly from climatic reasons, and if estimates were made and conclusions drawn from an area constituting the same latitude, it is probable that the great difference in the practical experience of apiarists would very noticeably diminish. But other causes also exist in different localities of the same latitude; as, for instance, the moth, quickly changing temperature, drouth, etc., which vary the standard of a basis on latitude for bee-management sufficiently to cause a theory practicable for one point therein not unmistakably so to all others.

In this locality there can really be said to be but two vital features to lend discouragement to the bee-keeper, viz: the severity of the winter and the shortness of the honey-gathering season. But from what experience I have had here in bee-keeping—which extends over a period of about three years—I think that the former difficulty can, by careful and judicious management, be nearly if not quite overcome, and that by means of a dry, warm and dark cellar. I put about 40 colonies into the cellar last fall, arranged upon shelves one above another, removed the covers, leaving the blankets on, and the entrances to the hives open. The cellar was ventilated by a small pipe running out at the window, but not sufficiently large as to allow enough cold to enter as at any time to cause frost to gather on the hives. This, I believe, to be the only way to winter bees with reasonably safety in this climate. The hives were principally well stocked with honey, none having been extracted therefrom during the season. Scarcely more than 2 per cent. of the colonies died, not counting 2 very late swarms which perished for the want of supplies, and not through the effects of the cold, and which might easily have been saved by proper feeding.

The winter previous to the last, I kept in the same cellar about 20 colonies with about the same proportion of loss. A neighbor with about the same number of colonies, who depended on an out-door cellar or "dug-out" for wintering his bees, and which at times reached a quite low temperature, suffered a loss of about 50 per cent. I notice a correspondent of the BEE JOURNAL says that a strong, healthy colony of bees should not, during the winter, lose by dying more than about a tea-cupful of bees. This is hardly in accordance with the experience that I have had so far in wintering, a quart of dead bees being not much above the average.

Until about June 1, it was a bad spring here for bees, the wetathe being cold and severe; but a ther present time (June 14) they are working nicely, and bringing in plenty of supplies, although I have had as yet but one swarm the present season, which I allowed to come about naturally, believing that plan to be superior to dividing colonies, for the amateur bee keeper.

Granite Falls, ♀ Minn.

For the American Bee Journal.

Wintering Bees Under a Snow-Drift.

L. H. SCUDDER.

Last fall I put 187 colonies into winter quarters—137 in the cellar, and 50 on the summer stands—all being supplied with natural stores, and no chaff-packing or other protection. Of the 137 in the cellar, 15 died. All late and light colonies were in the cellar. All of the 50 left on the summer stands were in Langstroth hives in a row along the east side of a hedge, and about 4 inches from the ground. Soon after winter set in, the snow drifted (mainly from the west) until it was level with the top of the hedge, thus completely burying the bees under a snow-drift from 3 to 5 feet deep.

It looked like cold comfort for "the little busy bees," but as I have frequently heard that plan of wintering recommended, I concluded to let them alone; however, after allowing them to remain in that condition for some 3 or 4 weeks, I thought I would see how they were doing, and accordingly I opened up a trench in front of 16 hives, and found them all alive, and apparently in good condition. By this time I was tired of shoveling snow, and being satisfied that I could not improve their condition, I quit work, leaving 34 colonies under the snow unmolested until about March 1, when it commenced thawing. I then opened them up, and found but few living, and all in a miserable condition.

They all had been breeding, some having 5 or 6 frames of brood. It took but a glance to see that diarrhea had done its work effectually. Of this lot of 34, 6 are living, and of the 16 from which the snow was removed, 10 are living. It would appear from this that if they are to remain long under snow, they should have some ventilation. By the way, has any one tried keeping bees under a snow-drift for three months, on sugar syrup alone? If Mr. Heddon has not tried this, I wish he would do so.

One great trouble with the most of us is, we do not do as well as we know how. I did not leave 50 colonies out all winter because I knew no better, nor as an experiment, but for the simple reason that my own strength was not sufficient to put them in the cellar, and aid could not be had at the proper time.

The outlook is not very flattering in this locality. The weather has been and continues too cold and wet for a successful honey harvest. Bees have only just commenced swarming. It will be seen that I lost 49 colonies, so I am commencing the season with 138.

New Boston,⊸ Ills., June 15, 1885.

For the American Bee Journal.

Bureau of Animal Industry.

WM. MUTH-RASMUSSEN.

The following item on this Bureau, I have taken from a recent San Francisco *Chronicle:*

"The Bureau of Animal Industry, established by an Act of Congress, May 29, 1884, has been completely organized during the last year, and is now in active and efficient operation. The purpose of this bureau is to collect statistics, procure information and impart instruction upon all matters relating to the animal industry of this country, and to investigate the extent and character of all diseases of a communicable nature, and to devise means for their prevention and cure. The work of this bureau has been pushed on vigorously and rapidly ever since its establishment. A great mass of information has already been collected in relation to the prosecution of the live-stock industry in this country, its needs and development, and the evils which affect it, so that owners of animals of all kinds may be insured against all preventable losses arising from disease, inexperience, improper management, etc.; that their efforts may be properly and intelligently detected; that the best possible promotion, and the most favorable protection of this industry may be secured, and that the most promising results, and the most profitable returns may be insured."

Now, Mr. Editor, do you know anything about this Bureau of Animal Industry? If it is as here represented, might it not afford the surest means of securing reliable statistics of apiculture, and also, to a great extent, to check the further spread of foul brood in the United States? The bureau, as here represented, seems to have a wide scope, and to cover apiculture as completely as any other branch of animal industry.

Independence,○→ Calif.

[The above article was received from Mr. Muth-Rasmussen sometime since, and we at once wrote to Washington to try to obtain some information concerning this bureau. All we know of it is that Commissioner Loring appointed agents, but, as the appropriation was exhausted, nothing further was heard of it.—Ed.]

For the American Bee Journal.

Sheep and Bees, etc.

E. J. SMITH.

I notice that Mr. Freeborn says on page 346, that the sheep in question were "blooded sheep;" I take it that they were Merinos. I live in the banner county of the world for those sheep, and I have never yet heard a word of complaint about bees annoying them. Probably the truth of the matter is, in Mr. F's case, that the plaintiff had overstocked his pasture and neglected the sheep, thus causing the loss mentioned.

You can count on me for $1 to help defend the suit. There are a lot of people so bigoted and ignorant about bees that if this suit is decided in favor of the plaintiff, there will be no end to such troublesome lawsuits; for a certain man told me that the bees injured buckwheat, as he had not obtained such large crops as he formerly did.

As to bees injuring fruit, I would say that I have watched them very closely, and only in the very dullest times, when there is nothing for them to gather, will they do any damage, and then only to over-ripe fruit, or where wasps have first punctured it. I know they are of great benefit to fruit, both large and small, in fertilizing the bloom.

Last fall I prepared 120 colonies for winter, the most of them being in good condition. As the two previous winters had been very severe, I anticipated a mild one, and so I did not crowd up my bees with division-boards as closely as usual, and consequently those on the outside of the clusters froze, and in one-half of the colonies they were greatly reduced in numbers. My loss for the winter was 2 colonies—1 by freezing and 1 with diarrhea. I would state right here that the majority of them had a very large quantity of pollen, but with my hive I can give them a flight when others cannot, and thus bring them through all right until spring.

This spring I have lost 8 colonies by loss of queens, drone-layers, fertile-workers, etc. I have 100 very strong colonies and 10 weak ones now. The weather, this spring, has been very changeable, still some of the time we had the best weather I have ever known. During fruit and rock maple bloom I never saw bees do as well. They are doing well now on clover, but as it is very dry here the yield from it will be small. Basswood is going to bloom very heavy, and if the weather is good the yield will be large. So far bees generally have swarmed but little.

Addison,←○ Vt.

American Agriculturist.

Bee-Notes for July.

L. C. ROOT.

One of the most important questions for the present month is, how to properly care for surplus honey. Both comb and extracted honey should be kept in a cool, dry, well ventilated room. In packing away comb honey in such a room, care should be taken to sort out all boxes that contain any cells with pollen stored in them, as it is in such combs that the moth-larvæ will work and injure them. Extracted honey should be kept in open vessels. Many advocate using a room so located that it may be kept very warm for curing honey. If the room is dry, and so arranged as to admit of a free circulation of air, I much prefer that it should be cool. I find that both comb and extracted honey cure equally well, and retain their flavor much better.

If it is desired to have comb honey of the whitest and most attractive appearance, it should be removed from the hive as soon as all the cells are capped over. Those who produce honey for their own use only, and care less for the looks and more to avoid the extra trouble required, will find that if the honey is kept on the hives until later in the season, it will be well cured; and they will also learn that while it will not be so white, it will receive an extra coating of wax over the cappings, which will render it less liable to be affected by moisture when kept for use later in the season. Besides, it is a fact, that unless it is kept under most unfavorable circumstances, such honey will retain its flavor much better when held for some time, than that which is removed from the hive as soon as capped over.

I have been asked to give my opinion as to whether the sting of a honey-bee can be the direct cause of a person's death. There is good proof that under certain conditions of the human system a single sting may cause death. While this is undoubtedly true, it is also beyond question that vast numbers of people may be stung an indefinite number of times without receiving serious injury. While I advocate using every precaution to avoid unnecessary stings, I am convinced that there is much needless suffering through fear, and the ill-effect of the sting is often thereby much increased.

Mohawk,♁ N. Y.

For the American Bee Journal.

Bees and Queens Leaving Hives.

S. H. JOHNSON.

On May 18 I examined my bees and found the strongest colony of blacks preparing to swarm. They had 2 young queens in cells, and eggs in other cells; and the only colony of Italians I have, had eggs in queen-cells. On the evening of May 19, the colony of blacks was moved 4 miles on a spring wagon, and as the roads were good, I do not think that the moving injured the bees any. On May 20 they swarmed, and after clustering they were hived in a lower story of a Simplicity hive made of double-dressed cypress lumber. The bees went to work, and on May 22 they came out of their new home. By the use of water they were persuaded to cluster again, and again they were hived in the same hive, and given a frame of brood from the parent colony. There was no empty hive at the place, or they would have been put into it.

On May 23 they came out again, and by once more applying water, they clustered, and were hived. The swarm being a very large one, and thinking that they had not sufficient room, a top-story with frames in it was put on the hive at this time. They did not stay, but came out shortly, but by throwing water and dirt among them, they again clustered and were put into the hive from the top; but upon seeing them rising, the top was shut quickly to keep them in, as they were coming out both at the top and at the entrance. They then started for the woods. The queen left with a large portion of the bees, but some of them staid in the hive with the brood. On the next day I gave them a frame of brood containing a queen-cell with a young queen in it, and they accepted it, sealed it up, and worked finely. I would ask whether under the circumstances the bees could have been saved without capturing the queen? Are cypress hives offensive to bees?

The Italian bees spoken of above, cast a swarm on May 23, and it was hived in the same kind of a hive; on the next day they came out of their new home, but by throwing water among the bees, they went back into the hive from which they had issued on the day previous. On May 30, 2 more swarms issued, and were hived in the same kind of hives. They came out on the next day, but they were sent back again. They staid, and are now doing well. Will those who have had queens and bees leave the hives, please give the reason for it?

Olmsted,♀ Ills., June 16, 1885.

SELECTIONS FROM OUR LETTER BOX

An Octogenarian Bee-Keeper's Report.—L. Eastwood, Waterville,⊸ O., says:

I heartily approve of the scheme of the Bee-Keepers' Union. Although I am nearly 80 years old, I expect to keep bees for some years yet. Having lost 60 colonies and saved one the past winter, I bought more, and I am now building up my stock again. My bees were mostly blacks and hybrids—except the one I have left, which is a pure Italian colony—and as there is not another live bee in the township, it is a good time to Italianize. The question with me is, not what made the bees die, but why did only the one colony live and come out strong, having been wintered in the same cellar-room among all the dead ones—the same room where they had wintered without loss for the past five years?

Rightfulness of Keeping Bees.—Ransom Allen, Carland,⊙ Mich,, on June 22, 1885, says:

I wish to announce my approval of Mr. Heddon's idea of raising a fund for the purpose of defending the rights of bee-keepers against the malicious persecution of ignorance and prejudice. You may put me down for a dollar, and if that is not enough, say so, and I will make it more. I would suggest that the best legal ability that can be had, be employed, and make it a test case, and see whether a man has a right to keep bees or not.

Bee-Keepers' Organization.—Miss J. M. Ball, Hopeside,o+ Va., writes:

I most earnestly endorse Mr. Heddon's move for a bee-keepers' organization, and I will willingly be among the first to enter my name. My choice also is the Editor of the AMERICAN BEE JOURNAL, for Secretary-Treasurer and General Manager.

Bees and Buckwheat, etc.—B. T. Davenport, Auroraville,⊙ Wis,, on June 19, 1885, writes:

I am sorry to see a fellow-bee-keeper assailed in the way that Mr. Freeborn is, and I know how to sympathize with him, in part at least; for I have just such ignorant and selfish men living near me, who are occasionally grumbling because my bees work on their buckwheat. They claim that the bees take the virtue out of the flowers, so the buckwheat does not fill as well. I really hope that Mr. F. will employ the ablest counsel to be had, and that he will come out victorious. I will give anywhere from $1 to $5 willingly, though I am heavily in debt, to help defend this suit. It is very dry here at present, and clover comes out slowly, and there is but little honey in it; but if we have rain right away, we may have a pretty good yield of clover honey. Basswood is going to bloom some; I think that one-half or more of the trees are budded nicely.

Season Cold and Wet.—J. W. Margrave, Hiawatha,♂ Kans., on June 16, 1885, says:

What few bees are in this region are doing only fairly well. The season thus far has been very cold and wet. There has been very little swarming. We are hoping for better in the near future.

Fight it to the Bitter End.—A. W. Osburn, Cuba, W. I., on June 18, 1885, writes:

I fully agree with the Editor's remarks on page 339, and with the article by James Heddon, on page 346, in the interest of Mr. Freeborn against the "sheep-man;" and I say, let bee-keepers organize, furnish money, and fight it to the bitter end. I am also in favor of Mr. Thos. G. Newman for Secretary-Treasurer and General Manager of the organization. I am ready with my share of the expenses.

A World of Defense.—G. L. Pray, Elsie,⊙ Mich., writes:

I have read and re-read every article relating to the defense organization, and I heartily endorse Mr. Heddon's plan of the defense. I think that there is a world of defense, as every bee-keeper will be interested in such an organization. I send $1.25 for the defense fund and annual fee, and twice that amount is awaiting, if wanted for such a glorious cause.

"Not One Cent for Tribute."—C. F. Greening, Grand Meadow,♀ Minn., on June 19, 1885, writes:

I fully endorse James Heddon's plan of defense. Assess me $1 for every trial of this kind, until farther orders. Let all true bee-keepers join in, and I think we can make it about as warm for the blackmailer in this case as though he had a colony of Cyprians or Apis dorsata turned over him. "Not one cent for tribute," but 40 colonies for defense.

A Corner-Stone of Defense.—L. N. Tongue, Hillsboro,+o Wis., on June 22, 1885, says:

I send you 25 cents as required by Article V in the Constitution of the National Bee-Keepers' Union, as given on page 372. I wish to associate myself with bee-keepers in such a much needed organization. Call on me when funds are needed. I indorse the Heddon plan. The idea set forth on page 379, by Mr. D. Millard, is worthy of consideration. I indorse every word; these facts cannot be gainsayed. Herein lies a corner-stone of defense. Were I living near this sheep pasture, I think I would be a close observer to ferret out the facts in the case. I heard of this complaint last season from one from that vicinity. If I am not mistaken, the person who informed me claimed that the sheep's noses were stung by the bees. The facts are, when a bee is approached by man or beast, it leaves for other quarters, especially when in pursuit of nectar in flowers. I think if this sheep-man would candidly investigate this matter, he would withdraw his case.

Cold Weather, etc.—James Heddon, Dowagiac,♀ Mich., on June 22, 1885, writes:

Following the past cold winter, we have had one of the coldest springs on record, and June has kept up the same spirit. To-day the wind blows hard from the north, and though the sky is clear, and the sun shining brightly, the mercury stands at 54° Fahr. in the shade. Last night queen-cells were killed in their nuclei by lack of heat. We have never before lost so many queens between hatching and fertilization. Basswood is in the bud, and is set full, on both high and low land. Clover is in full bloom, and yielding, when warm enough. Bees hardly leave the hives to-day. Many colonies that I purchased during the past spring, are yet too weak for surplus receptacles. Notwithstanding my heavy losses, my remaining colonies average much stronger than any I have purchased. We are having a good time shaving off the heads of drones in embryo, and catching them and destroying them. We are doing much "modern transferring," and though in the coldest season on record, we are having perfect success, so far.

Favoring a Defense Organization.—W. R. Elwood, Sr., Lindley,♂ Mo., writes:

I am greatly in favor of a defense organization, having read with much interest the suggestions made by Mr. James Heddon, and I desire to become a member of that organization. True, my means are very limited, and that is not all, I am now, and have for 7 years, been having very poor health. Enter my name for $1, and when it is wanted let me know. I am in favor of the Editor of the BEE JOURNAL for Secretary-Treasurer and General Manager.

Worst Year in 60.—Richard Ruddock, Orono, Ont., on June 17, 1885, says:

The past was a very hard winter on the bees here, the most of them having died. I put 22 into a bee-house, and lost only 2, and the others came out strong. I put them out on April 19, they having been in the bee-house for 150 days. Those that I wintered on the summer stands did not do so well. I have kept bees for about 60 years, but the past has been one of the worst years for bees I have ever known.

Usefulness of Defense Organizations.—M. E. Darby, Dexter,⊙ Iowa, writes thus:

Please enroll my name as a member of the Bee-Keepers' Union, for which I send the required fee. I hope the scope of this new movement will be enlarged so as to protect bee-products as well as bee-keepers, by prosecuting such falsifications as that of Wiley, and by united action against adulteration, enforcing the laws which we now have, and getting them perfected. I think that State associations could be made very useful in this work of stopping adulteration. I believe that the leading newspapers of the United States would willingly correct the Wiley delusion, if appealed to by the head of such a combination as this new one promises to be.

Protective Organization.—Wm. Anderson, Sherman,o+ Mo., says:

I have been reading about the lawsuit brought against Mr. Freeborn. You may put my name down for $1, to assist in defending this suit. We as bee-keepers need some kind of a protective organization, so now let us in times of peace prepare for war, and keep ourselves in readiness in case of emergency.

Bees in the Pasture, etc.—Jas. Jardine, Ashland,o+ Nebr., June 22, 1885, says:

I have read the articles on page 346, in reference to the suit involving bees. I never have known bees to molest anything while they were out at work, but, as a rule, they attend strictly to their own work. I have a cow and two colts on my clover, and it is covered with bees all the time, and I do not see that they sting any of them. I do not believe that the farmer ever saw the bees sting his sheep at all; he merely guessed at it. I hope that every bee-keeper in the United States will send in his dollar and make this selfish man know that bee-keepers will maintain their rights. As I promised to report how my bees wintered in my cellar, I would say that I put in 102 colonies on Nov. 18, 1884, and on March 19, 1885, I took out 100 colonies in fine condition. I kept the bee-cellar at about 40° above zero the most of the time. Those bees that were left out-of-doors suffered very badly the past winter in Nebraska; a good many bee keepers lost all they had. There are a great many bees starving to death this month in this section. I am feeding mine for a week, and I will continue to feed them until the sumac blooms.

Membership in the Bee-Keepers' Union, etc.—Henry Munger, Harvard, ♂ Ills., on June 18, 1885, says:

This is my second season in bee-keeping. Last November I put 7 colonies into the cellar, and I lost one by starvation. I had one swarm yesterday, and another to-day. When my dollar is required in the Freeborn lawsuit, I will send it.

[A moment's thought will convince any one that business cannot be done in the way suggested. If any one wishes to become a member of the Union, the dollar to the Defense Fund must be sent as well as the 25 cents annual membership-fee. There is no use of promises—such will not conduct a case in court. It takes the cash on the spot.—ED.]

Rightfulness and Justice of Bee-Keeping.—H. S. Webster, Cresco, ♂ Iowa, on June 18, 1885, writes:

I am highly pleased with the feeling and tone as expressed by many correspondents in the BEE JOURNAL of June 17, in relation to the Bee-Keepers' Union and their sympathy for Mr. Freeborn; and also with Mr. Heddon's article on the same subject, on page 346. Mr. Heddon is certainly entitled to thanks from all of us for his able and humane article in starting the thing. I do not think much of Mr. Andre's idea of the plaintiff's inability to identify the bees, but I would rely wholly upon, as the Editor says on page 371, "the rightfulness and justice of our cause." Mr. Demaree's article is just to the point as he says: "The marvelous ignorance and stupidity that is abroad concerning the habits and instincts of the honey-bee makes the matter more serious than funny." On page 379, Mr. D. Millard hits it exactly. I do not now expect to ever need the aid of this society myself, but it will be a pleasure to me to contribute and be a member of a society that will be always ready to admonish any man so stupid and wilfully ignorant as to commence suit for damage done to sheep by the honey-bee.

Bees and Grapes, etc.—Reuben Havens, Onarga,○+ Ills., on June 17, 1885, writes thus:

I have just read the proposed constitution of the "Bee-Keepers' Union,' and I am well pleased with it. I have for some time thought an organization of that kind was necessary. Bees and bee-keepers are accused of terrible things. Here is a sample: There have been large quantities of grapes raised in this vicinity in years past, but for the last two years they have been so wormy that they were almost worthless. The owner of one of the largest vineyards claims that bees cause the grapes to be wormy. Wonderful sagacity! My motto has ever been, "Avoid lawsuits;" but count me in, in the sheep-bees case. My bees are beginning to store surplus, but the nights are too cool for a heavy flow of honey. Clover bloom is abundant. Enclosed find $1 for membership fee, and for the defense fund.

WEEKLY EDITION
OF THE
AMERICAN
ESTABLISHED IN 1861
OLDEST BEE PAPER IN AMERICA
BEE JOURNAL
PUBLISHED BY
THOMAS G. NEWMAN & SON,
PROPRIETORS,
923 & 925 WEST MADISON ST., CHICAGO, ILL.
Weekly, $2 a year; Monthly, 50 cents.

ALFRED H. NEWMAN,
BUSINESS MANAGER.

Special Notices.

☞ If your wrapper-label reads JULY 85, please remember that your subscription runs out with this month. Renew at once, so as not to lose any numbers.

◆

☞ **Back Numbers.**—We can supply a few more of the back numbers to new subscribers. If any want them, they must be sent for soon, before they are all gone.

◆

☞ Our rates for two or more copies of the book, "Bees and Honey," may be found on the Book List on the second page of this paper. Also wholesale rates on all books where they are purchased "to sell again."

◆

☞ For two subscribers for the Weekly BEE JOURNAL (or 8 for the Monthly) for one year, we will present a Pocket Dictionary, and send it by mail, postpaid.

◆

☞ **Preserve your papers** for reference If you have not got a Binder we will mail you one for 75 cents, or you can have one FREE if you will send us 3 new yearly subscriptions for the BEE JOURNAL.

◆

To Correspondents.—It would save us much trouble, if all would be particular to give their P. O. address and name, when writing to this office. We have several letters (some inclosing money) that have no name; many others having no Post-Office, County or State. Also, if you live near one post-office and get your mail at another, be sure to give the address we have on our list.

◆

☞ All who intend to be systematic in their work in the apiary, should get a copy of the Apiary Register and commence to use it. The prices are as follows:

For	50 colonies (120 pages)	$1 00
"	100 colonies (220 pages)	1 25
"	200 colonies (420 pages)	1 50

The larger ones can be used for a few colonies, give room for an increase of numbers, and still keep the record all together in one book, and are therefore the most desirable.

Local Convention Directory.

1885. *Time and place of Meeting.*

July 15.—Central Illinois, at Bloomington, Ills.
Wm. B. Lawrence, Sec.

July 25.—Union, at Stewart, Iowa.
M. E. Darby, Sec., Dexter, Iowa.

Dec. 8—10.—Michigan State, at Detroit, Mich.
H. D. Cutting, Sec., Clinton, Mich.

☞ In order to have this table complete, Secretaries are requested to forward full particulars of time and place of future meetings.—ED.

◆

☞ **Sample Copies** of the BEE JOURNAL will be sent FREE upon application. Any one intending to get up a club can have sample copies sent to the persons they desire to interview by sending the names to this office.

Convention Notices.

☞ The Union Bee-Keepers' Association of Western Iowa will meet in Stuart, Iowa, on July 25, 1885, at 10 a. m.
M. E. DARBY, *Sec.*

◆

☞ The Cortland Union Bee-Keepers' Association will hold a basket picnic at the apiary of Mr. Miles Morton, at Groton, N. Y., on Tuesday, Aug. 18, 1885. All bee-keepers, with their families, are cordially invited to be present.
W. H. BEACH, *Sec.*

◆

☞ The Bee-Keepers' Association of Central Illinois will meet at Bloomington, Ills., on July 15, 1885, at 10 a. m.
WM. B. LAWRENCE, *Sec.*

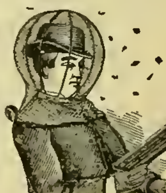
Advertisements.

THE SOUTH FLORIDA ORANGE GROVE,
$1 a Year; Sample, 10c., Silver.
GIVES price of Orange Groves and Florida information. J. CROSS, Liverpool, Fla.

Dadant's Foundation Factory, wholesale and retail. See Advertisement in another column.

Send for "OUR HOME FRIEND,"
An 8-page, 32-column Semi-Monthly.
IT IS just the paper you need, as it contains an **Agricultural, Household, Young Folks, Temperance, Religious** and **Miscellaneous** department. Only 50 cts. a year, and will be sent 3 months ON TRIAL to the readers of the BEE JOURNAL for only 10 cents. General and local agents wanted. Address,
"OUR HOME FRIEND,"
26A6t Loudonville, Ohio.

A NEW BEE-VEIL.



There are five cross bars united by a rivet through their center at the top. These bars are buttoned on to studs on the neck-band. The bars are of best light spring steel; the neck-band of best hard spring brass; the cover is of handsome light material. It is very easily put together, no trouble to put on or take off, and folds compactly in a paper box 6x7 inches by one inch deep. There would be no discomfort in wearing it either day or night, and the protection against Mosquitoes, Flies, Bees, Gnats, etc., is perfect. The weight of the entire Veil being only five ounces. **Price, by Mail or Express, $1.00.**

Special discount to dealers, on ½ dozen or larger quantities.

THOS. G. NEWMAN & SON,
923 & 925 West Madison St., CHICAGO, ILL.

Behold this Tear!

—o—

The cause of my grief is, that Doolittle's **best**

ITALIAN BEES

compel me to work so hard to care for their surplus Honey, that I have not attained my growth, even at this advanced age of life. It is a terrible warning to all, not to get any of his **Queens!** but perhaps others tougher than I, could "stand the racket." If any think they can, **Doolittle** will furnish Queens from his **Best Stock** at the following prices:

Untested Queens, each	$ 1 00
" " per doz	10 20
" " reared by natural swarming, each	1 50
Untested Queens, reared by natural swarming, per doz	15 00
Tested Queens, each	2 00
" " by natural swarming, each	3 00
" " 1884 raising, sent in May, each	5 00
Extra Selected, two years old, each	10 00

☞ If any further information is desired, send for 6-page Circular. Address,

G. M. DOOLITTLE,
10C5t **Borodino, Onon. Co., N. Y.**

(ESTABLISHED 1864.)

BEE-SUPPLIES.

We furnish EVERYTHING needed in the Apiary, of practical construction, and at the **lowest price.** Satisfaction guaranteed. Send your address on a Postal card, and we will send you our Illustrated Catalogue free. **E. KRETCHMER,**
2C12t COBURG, IOWA.

BEE-HIVES, SECTIONS,

FOUNDATION, &c.

WITH a capacity of 7,000 square feet of floor, we claim the best facilities for furnishing Supplies in the southeast. **OUR NEW FACTORY IS EQUIPPED** with the best and latest improved Machinery, which enables us to furnish our goods "up to the times," and will furnish **all kinds at very reasonable prices.** Parties needing Supplies would do well to see our Price-List before buying.

Queens and Bees for 1885!

It should be remembered that we are **headquarters** for the **Albinos,** and make a specialty of this variety. We also breed from select Italians. Send for Circular and Price-List. Address,

S. VALENTINE & SON, Hagerstown, Md.
13Ctf

BEE-KEEPERS' GUIDE;

Or, MANUAL OF THE APIARY.

12,000 SOLD SINCE 1876.

13th Thousand Just Out!

10th Thousand Sold in Just Four Months

3,000 Sold Since May, 1883.

More than 50 pages, and more than 50 fine illustrations were added in the 8th edition. The whole work has been thoroughly revised, and contains the very latest in respect to bee-keeping. It is certainly the fullest and most scientific work treating of bees in the World. Price, by mail, **$1 25.** Liberal discount to dealers and to clubs.

A. J. COOK, Author and Publisher,
1C1y Agricultural College, Mich.

☞ For sale also at the Office of the BEE JOURNAL, at wholesale or retail.

Friends, if you are in any way interested in

BEES OR HONEY

We will with pleasure send a sample copy of the **Semi-Monthly Gleanings in Bee-Culture,** with a descriptive price-list of the latest improvements in **Hives, Honey Extractors, Comb Foundation, Section Honey Boxes,** all books and journals, and everything pertaining to Bee Culture. *Nothing Patented.* Simply send your address *written plainly,* to
Ctf A. I. ROOT, Medina, O.

"BOSS" ONE-PIECE

SECTIONS.

Patented June 28, 1881.

PATENTED JUNE 28 1881

One-lb. (4¼x4¼)	in lots of	500 to 4,000	$5.00
Ditto	Ditto	5,000 to 10,000	4.50
Ditto	Ditto	10,000 to 25,000	4.00

The one-lb. Section is 17 inches long. For any sizes between 17 and 20 inches in length, add 5 per cent. For any sizes between 20 and 24 inches, add 10 per cent. Add the above per centage to the price of one-lb. Sections in the same quantities.

We make any size or width desired.

J. FORNCROOK & CO.,
BCtf Watertown, Wis., Mar. 1, 1885.

☞ Thos. G. Newman & Son, of Chicago, sell the one-piece Sections manufactured by us.

BEES for SALE

after July 1st. Send for terms.
H. R. BOARDMAN, E. Townsend, Huron Co. Ohio.
24Atf

A PRIZE. Send six cents for postage, and receive free, a costly box of goods which will help you to more money right away than anything else in this world. All, of either sex, succeed from first hour. The broad road to fortune opens before the workers, absolutely sure. At once address TRUE & Co., Augusta, Maine.
51A1y

BE SURE

To send a Postal Card for our Illustrated Catalogue of APIARIAN SUPPLIES before purchasing elsewhere. It contains illustrations and descriptions of everything new and valuable needed in an apiary, at the lowest prices. Italian Queens and Bees. Parties intending to purchase Bees in lots of 10 colonies or more, are invited to correspond.

J. C. SAYLES,
1D15t 2B5t HARTFORD, WIS.

Muth's Honey Extractor,

Square Glass Honey Jars, Tin Buckets,
Langstroth Bee-Hives, Honey-Sections, etc.

Apply to **CHAS. F. MUTH,**
Freeman & Central Ave., - CINCINNATI, O.

☞ Send 10c. for Practical Hints to Bee-Keepers.

$200,000 *in presents given away.* Send us 5 cents postage, and by mail you will get *free* a package of goods of large value, that will start you in work that will at once bring you in money faster than anything else in America. All about the $200,000 in presents with each box. Agents wanted everywhere, of either sex, of all ages, for all the time, or spare time only, to work for us at their own homes. Fortunes for all workers absolutely assured. Don't delay. H. HALLETT & Co.
51A1y Portland, Maine.

Re-Written and Enlarged! Third Edition of the

BEE-KEEPERS' HANDY BOOK

300 pages and nearly **100** fine illustrations. Price by mail, nicely bound in cloth, **$1.50** per copy. Book and tested Queen of any race, by mail, $2.50. Book and sample Drone and Queen Trap, by mail, $2.00. Our Queens cannot be excelled for beauty, purity, mild disposition, honey-gathering and wintering qualities. All my Queens are reared at the "Api. bee-farm." Send for prospectus and price list.

22A16t **HENRY ALLEY, Wenham, Mass.**

HEADQUARTERS IN THE SOUTH

For the manufacture of
BEE-KEEPERS' SUPPLIES.

Dunham and Root Foundation a specialty. Italian Queens and Bees from March to November.
☞ Send for my Illustrated Catalogue.

5Ctf **PAUL L. VIALLON,** Bayou Goula, La.

Dadant's Foundation Factory, wholesale and retail. See Advertisement in another column

---

CHOICE ITALIAN QUEENS

SIX FOR $5.00—BY RETURN MAIL.

Tested Queens, each	$ 1 50
Selected Tested, each	3 00
Six 3-frame Nuclei (without Queens)	17 00
Ten Pounds of Bees	10 50
Full Colonies, each	8 00
Comb Foundation, per pound	42

Circular sent on application.

W. H. PROCTOR, Fair Haven, Vt.
26A1t

LOS ANGELES.

HOMES IN SOUTHERN CALIFORNIA.

"Stern winter smiles on that auspicious clime,
The fields are florid with unfading prime:
From the bleak pole no winds inclement blow,
Mould the round hail or flake the fleecy snow;
But from the breezy deep the bless'd inhale,
The fragrant murmurs of the western gale."
—Homer.

FULL information concerning the garden spot of the world, beautiful LOS ANGELES, THE LIVELIEST AND MOST PROSPEROUS SECTION OF THE PACIFIC COAST, furnished by the Los Angeles **Weekly Mirror** a mammoth 72 column PAPER, the best weekly in California SEND FOR IT. Single copy, three two-cent stamps; six months, **$1**; one year, **$2.**

Address THE TIMES-MIRROR CO.,
25A13t Los Angeles, Calif.

Dadant's Foundation Factory, wholesale and retail. See Advertisement in another column.

PAPER BOXES.

BE SURE and send for my Catalogue and Price-List of **PAPER BOXES.** They are the "NEATEST" and "MOST ATTRACTIVE" packages ever used for marketing HONEY. Sample Box by mail, 7 cents. Address,

GEO. T. HAMMOND,
26A13t Brockport, Monroe Co., N. Y.

LEARN SHORT-HAND AND TELEGRAPHY

BY MAIL and take paying positions.

Instruction thorough and progress rapid.

☞ Send for Circular.

Brown's School of Shorthand & Telegraphy,
WM. H. BROWN, Principal, New Haven, Conn.

☞ *Situations secured for pupils when competent.*
26A3t

SYRIO-ALBINO QUEENS.

APIS AMERICANA.—Orders for Queens of the beautiful **SYRIO-ALBINOS,** will now be received. Reared by my **new method,** all are large and fine and perfect. We have made a great discovery in Queen-Rearing, and hereby challenge the production (by natural swarming or otherwise) of Queens that will excel ours in any valuable quality. Isolated 3 miles from other bees. First come, first served. Send for circulars.

DR. G. L. TINKER,
1Atf New Philadelphia, Ohio.

W. Z. HUTCHINSON,

Rogersville, Genesee Co., Mich.,

Is now making a specialty of rearing **FINE ITALIAN QUEENS.** All Queens reared from the purest and best of mothers, and the cells built in full colonies. No Queens sent out that would not be used in the home yard. Single Queen, $1.00; six for $5.00; twelve or more, 75c. each. Tested Queens, $2.00 each. We can furnish White Poplar **SECTIONS.** Make Money Orders payable at Flint. 16Atf

DADANT'S FOUNDATION

is attested by hundreds of the most practical and disinterested bee-keepers to be the cleanest, brightest, quickest accepted by bees, least apt to sag, most regular in color, evenness and neatness of any that is made. It is kept for sale by Messrs.

THOS. G NEWMAN & SON, Chicago, Ill.,
C. F. MUTH, Cincinnati, O.,
JAMES HEDDON, Dowagiac, Mich.,
KING, ASPINWALL & CO., 16 Thomas St., N. Y.
DOUGHERTY & McKEE, Indianapolis, Ind.,
CHAS. H. GREEN, Berlin, Wis.,
CHAS. HERTEL, Jr., Freeburg, Ill.,
E. L. ARMSTRONG, Jerseyville, Ill.
ARTHUR TODD, Germantown, Philadelphia, Pa.
E. KRETCHMER, Coburg, Iowa.
E. F. SMITH, Smyrna, N. Y.
C. F. DALE, Mortonsville, Ky.
EZRA BAER, Dixon, Lee Co., Ill.
CLARK JOHNSON, Covington, Ky.
C. A. GRAVES, Birmingham, Ohio.
M. J. DICKASON, Hiawatha, Kans.
ED. R. NEWCOMB, Pleasant Valley, N. Y.
J. W. PORTER, Charlottesville, Va.

and numbers of other dealers. Write for SAMPLES FREE and Price-List of Supplies, accompanied with **150 COMPLIMENTARY and UNSOLICITED TESTIMONIALS** from as many bee-keepers in 1884. **We guarantee every inch of our Foundation equal to sample in every respect.**

CHAS. DADANT & SON,
5AB1y HAMILTON, Hancock Co., ILL.

PATENT FOUNDATION MILLS 6 inch $9. 10 " $15 W. C. PELHAM MAYSVILLE, KY.

37AB1y

Bee Hives AND SECTIONS.

NEW SHOP AND NEW MACHINERY ! !

The Largest Manufactory of Bee Hives Sections, etc., in the World !

Our capacity now is a **CAR-LOAD OF GOODS DAILY.**

NOTICE.—In enlarging our factory last year, we were put behind with our work so that by spring, were obliged to return many orders. Now we have ample stock ahead and can fill all orders promptly.

Write for Price-List for 1885.

G. B. LEWIS & CO.,
13ABtf WATERTOWN, WIS.

Given's Foundation Press.

THE GIVEN PRESS stands in the front rank for manufacturing **FOUNDATION** in **Wired Frames**, as well as foundation for **SECTIONS**. Without a dissenting voice, all of our customers affirm its superiority.

Send for Circulars and Samples.

D. S. GIVEN & CO.,
1ABtf HOOPESTON, Vermillion Co., Ills.

DISCOUNT

—ON—

WIRE NAILS!

UNTIL further notice, we can make a discount of 25 per cent. from our Catalogue prices on **Wire Nails**, owing to a decline in the market.

THOS. G. NEWMAN & SON,
923 & 925 West Madison St., CHICAGO, ILL.

CHOICE ITALIAN Bees and Queens

WE CAN FURNISH FULL COLONIES of Choice Italian Bees in 8-frame Langstroth Hives at **$10** each. They are bred up to the **HIGHEST STANDARD** of excellence for all the best points. They are gentle and **GOOD WORKERS.**

Also some **Purely Tested ITALIAN QUEENS** for sale at $3 each.

THOS. G. NEWMAN & SON,
923 & 925 West Madison St., CHICAGO, ILL.

THE INVERTIBLE HIVE!

INVERTIBLE FRAMES,
Invertible Surplus Honey Cases,
Entrance Feeders, Top and Bottom Feeders,
Hive-Lifting Device, Honey Extractors,
Wax Extractors, Comb Foundation, etc.

☞ My new Illustrated Catalogue is now ready, and will be mailed to all who may apply for it. Address,

J. M. SHUCK,
10A1y DES MOINES, IOWA.

Bee-Keepers' Supplies.

We have added to our LARGE FACTORY a SPECIAL DEPARTMENT for the

Manufacturing of Bee-Hives,

AND

White Poplar Dovetailed Also, One and Two-piece SECTIONS.

☞ All Orders will be filled promptly at the

LOWEST FIGURES,

Send Stamp for Catalogue and Samples.

The H. F. MOELLER M'f'g Co.
1A26t DAVENPORT, IOWA.

WIN more money than at anything else by taking an agency for the best selling book out. Beginners succeed grandly. None fail. Terms free. HALLETT BOOK CO.
51A1y Portland, Maine.

60 New Style, Embossed Hidden Name and Chromo Visiting Cards, no 2 alike, name on, 10c., 13 packs $1; warranted best sold. Sample book, 4c. L. JONES & CO., Nassau, N. Y.
11A1y

1868. 1885.

HEDDON'S COLUMN.

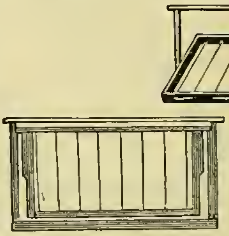
BEST GIVEN FOUNDATION.

Retail Prices:

Brood, per lb.................... 50c.
Surplus, " .... 60c.

☞ Write me for special prices on Foundation to "sell again."

My New Reversible Frames,



(SEE PAGE 8, BEE JOURNAL FOR 1885).

Made up, wired, and filled full of best Given Comb Foundation, put on with the Press, and attached to the top-bar.

Each .... $ .18
Per 100 .... 15.00

The Brood Chamber, or body of our Hive, will hold 12 of these Frames, when put in snugly for shipping. Our Extracting Super will hold the same number. For this purpose, we will ship these Frames in them, charging only 30 cts. for Brood Chamber and 20 cts. for Extracting Super, both painted white.

CASH for WAX

22c. for yellow; darker grades a little less.

Hives in the Flat

OR MADE UP COMPLETE.

Either for Comb or Extracted Honey, cheaper than many can procure material at home. Write for special prices in quantity, and state the number wanted.

NICEST

WHITE-POPLAR

SECTIONS.

SEND YOUR ADDRESS

For my 32-page

CATALOGUE FOR 1885.

Address, **JAMES HEDDON,**
DOWAGIAC, Cass County, MICH.

WEEKLY EDITION
OF THE
AMERICAN
ESTABLISHED IN 1861
OLDEST BEE PAPER IN AMERICA
BEE JOURNAL

THOMAS G. NEWMAN,
EDITOR.

Vol. XXI. July 8, 1885. No. 27.

APICULTURAL NEWS ITEMS.

EDITORIAL AND SELECTED.

It pays to wear a smiling face
  And laugh our troubles down ;
For all our little troubles wait
  Our laughter or our frown.
Beneath the margin of a smile
  Our doubts will fade away,
As melts the frost in early spring
  Beneath the sunny ray.

A Swarm of bees weighs from three to five pounds.

White Clover is yielding honey well, and basswood promises a fine honey yield.

Honey is now being gathered lively in some localities—the bees enjoying the *fun*, and the bee-men looking happy !

Always Select the best colonies from which to rear queens. There is as much difference in bees as in any other stock.

Use Comb Foundation plentifully in the sections. It helps the bees, strengthens the comb, and adds to the shipping qualities of the honey.

The Rev. L. L. Langstroth is again busy with his pen, and our readers may expect an article from him very soon. To all our readers this will be welcome news.

Bees Serve as Active Agents in the fertilization of plants, and are not destructive. They are profitable because they gather and store up that which would be entirely lost without their aid.

Number all your Hives so that a record may be kept of each colony. The Apiary Register, with a faithfully-kept record of each colony, is very desirable, if systematic work is to be accomplished in the apiary.

Foul Brood—Its Management and Cure, is the name of a 32-page pamphlet published by D. A. Jones & Co., Beeton, Ont. It details Mr. Jones' method of curing foul brood by the "starvation plan." We can furnish it for 15 cents, post-paid.

The National Bee-Keepers' Union has been formed, for the purpose of defending the rights and protecting the interests of the bee-keepers of America. Every person interested in the pursuit should **at once** send for a copy of the Constitution, voting blank, etc., and become a member. Address "National Bee-Keepers' Union," 925 West Madison street, Chicago, Ill.

Bee-keeping fully recommends itself to women because it is an outdoor employment, says an exchange. It cannot be denied that our wives and daughters are confined too much in-doors; this leads to physical enervation—loss of strength, of health, and of beauty.

Moral Courage, says an exchange, is of more worth than physical, not only because it is a higher virtue, but because the demand for it is more constant. Physical courage is a virtue which is almost always put away in the lumber-room. Moral courage is wanted day by day.

The Honey Season is late, but at the present writing it promises to be a good crop, both in quantity and quality. If the fall crop should also be a good one, there will be nothing discouraging about the year 1885, even if many bees did die during the previous winter and spring.

"Many hands make light work," and many bees will gather much honey in a short time, when the honey-flow comes. The sagacious apiarist endeavors to get full colonies of bees to "bring in" the honey crop, which lasts but a short time, and must be immediately gathered, or it is lost !

Depopulated Hives.—Many inquiries are received from beginners about the hives that were depopulated by last winter's losses. They should be taken care of, and put out of the reach of the bees. If the frames contain honey, give such to the bees in exchange for empty ones. Those containing dead bees should be given to strong colonies ; the bees will clean them up much better and cheaper than it can be done otherwise.

"If that Law-suit was in Texas," remarks a correspondent, "the owner of the sheep who complains of trespassing bees, would have to swear to 'brands' and 'marks' on the bees, or he would be beaten very quickly." There are many difficulties in the way of the plaintiff, but *ignorance* or *prejudice* on the part of the jury may easily overrule many of such, and the pursuit may thereby suffer.

The Beautiful.—The Western *Farmer* remarks as follows concerning the beauty of honey : "Extracted honey is certainly the perfection of the product, though honey in the comb as yet brings the higher price. People say it is because it is more beautiful to the eye ; but this cannot be true. Served in a stand of crystal, extracted or clear honey, golden in color, and transparent as crystal itself, what object is more beautiful upon a well-appointed table ?"

Empty Hives, says the *Indiana Farmer*, in which swarms are to be put, should be kept in the shade, that they may be cool and inviting to the new swarm. Newly-hived swarms are better if protected from the sun for the first several days after being hived. Swarms that are hived on frames of empty comb, should be given the section boxes at once. If no extra room be given them, they will soon fill the combs below with honey, crowding the queen for room in which to lay, and with much honey below, they are loth to commence in the sections above. An excess of honey in the brood chamber at this season of the year, is against a full supply above.

Industry of Bees.—The *Irish Farmers' Gazette* says that few people have any idea of the labor that bees have to expend in the gathering of honey. Here is a calculation which will show how industrious the "busy" bee really is. Let us suppose the insects confine their attentions to clover fields. Each head of clover contains about sixty separate flower tubes, in each of which is a portion of sugar not exceeding the five-hundredth part of a grain. Therefore, before one grain of sugar can be got, the bee must insert its proboscis into 500 clover tubes. Now, there are 7,000 grains in a pound, so that it follows that 3,500,000 clover tubes must be sucked in order to obtain but one pound of honey.

A Queen Hatcher is received from Mr. J. B. Hains, Bedford, O., which he describes as follows :

> "The cell is to be placed in the screen cage, and the hatcher placed over a hive full of bees so that it may receive warmth from the hive, and the bees can cluster around it. I made it a little small to send through the mail. The case can be made longer, and wider, to accommodate as many cages as wanted. I make it to take a cage 1½ inches in diameter, and 2½ inches deep, to accommodate a cluster of cells, when desired, but do not know which size is best, as I have used it only enough to know that it hatches queens with safety."

It consists of a four-sided tin case, flaring at the bottom in which hangs a wire-cloth cone—covered at the top by mica, and it appears to be a very safe and convenient arrangement in which to hatch queens from the cell.

Honey in the Days of Yore.—A correspondent in the London *Lancet* remarks as follows on this subject : "Not only the Greeks and Romans, but most of the Asiatic nations, had habitual recourse to honey in the preparation of food. It figured abundantly in their rather composite "made" dishes, and formed the standing adjunct of simpler fare. Mixed with wine, milk, or even water, it was also in universal demand for beverages ; and it was for this purpose that the Scandinavian and Celtic nations used honey while beer was yet unknown, and wines were mainly confined to the countries that produced them. Mead and metheglin are sometimes confounded ; but the former was obtained from the combs from which the honey had already been taken, while the latter required 112 pounds of honey to produce 24 gallons. Both were fermented drinks ; but metheglin—the "honey-wine" of the banqueting table, was rather viciously intoxicating, while mead was chiefly used as a vehicle for the flavoring of fruits and aromatic herbs. Queen Elizabeth was extremely fond of this beverage ; and a mead used to be specially prepared for her use, blended with sweet-brier, thyme, rosemary, and bay."

Amusing Incident.—An exchange is responsible for the following :

> "The other day a bee sank from sight in the calyx of a great white lily, when the neighbor's cow, who had just dropped in to see how things were getting along, stepped up and swallowed the lily. The cow thought the lily had been heated in a stove, because it got in its work about 80 times a minute. The cow spoiled that garden in two minutes. It looked like a circus ring after the trick-mules are through, and the cow went out without taking the time to look for the gate. Plunging madly into the first pond, she filled herself with water and drowned the bee. She now leaves flowers alone."

QUERIES

WITH

REPLIES by Prominent Apiarists.

Queen whose Eggs do not Hatch.

Query, No. 81.—We have a queen hatched last September, and not one of her eggs ever hatch. We have seen 3 or 4 frames laid full of eggs, but never have been able to see the first one hatched. What is the trouble?—D. & R.

G. M. DOOLITTLE says: "I do not know. I have had several such cases, and I always had to kill the queens."

MESSRS. DADANT & SON answer: "She is a sterile female."

G. W. DEMAREE remarks: "To test the matter as to whether the eggs of your queen are actually barren, you should try her at a time when the bees will take care of the eggs. I have seen young queens lay late in the fall, at a time when the bees did not want brood, with the results you mention. It should not surprise any one if your queen's eggs should fail to hatch under the most favorable circumstances; there are exceptions to all rules."

DR. C. C. MILLER replies: "Such cases are of occasional occurrence. I had one. The trouble is with the queen. No matter how fine-looking, take her head off."

DR. G. L. TINKER says: "The eggs are imperfect."

PROF. A. J. COOK answers: "She is infertile (see my Manual.)"

Size of Brood-Frames.

Query, No. 82.—What is the best size for brood-frames?—Bowmanville, Ont.

JAS. HEDDON answers: "I prefer small and shallow brood-frames."

W. Z. HUTCHINSON says: "One not longer than the Langstroth, and certainly no deeper, but shallower, if anything."

MESSRS. DADANT & SON reply: "With us, it is 11¼x18 inches. The bees winter the best in such."

G. W. DEMAREE remarks: "Climate, and peculiar tests of bee-keepers, will have to regulate this matter of size of frames. The long shallow frame, like the standard Langstroth, is decidedly best for a moderate climate."

DR. C. C. MILLER says: "Perhaps no one knows. The size preferred by me (Langstroth), is liked by a great many."

DR. G. L. TINKER answers: "I prefer a frame 14⅜x9⅛, as it is the most convenient to handle and equally serviceable for any other purpose."

G. M. DOOLITTLE replies: "The size I use, of course. This is more a matter of preference than anything else. I prefer the Gallup frame, and others claim to prefer other styles of various sizes and shapes."

Colonies Leaving their Hives.

Query, No. 83.—1. What is the cause of bees leaving hives with clean honey, clean combs, and lots of brood? On April 20, 3 of my colonies left their hives—two going for parts unknown, and one I hived in the same hive from which it came. The next day they swarmed again, and then they were hived as before. The next day they seemed to be all right, and they are now doing as well as any of my other colonies. Two colonies went off for one of my neighbors, and one for another—all 3 in the same way as mine. I have never heard or read of anything like it. I would like to know the cause of this phenomenon, and also how to prevent it hereafter.—Indiana.

2. What ails my bees? They leave the hives and go to the woods. Some of them were short of stores, and I had fed them honey; others were in good condition with plenty of honey and brood in all stages, and carrying in honey and pollen. I have lost 6 colonies in that way.—Minnesota.

G. W. DEMAREE answers: "I have no doubt but that many causes contribute to the swarming-out mania; but I believe the chief cause is excitement on the part of the queen. At a time when very few young bees are in the hive to keep company with the queen when a general flight takes place, she becomes greatly excited, and sometimes takes wing and sallies out to join the circling bees, and once in the air, they are as likely to do one thing as another. Swarming-out is often caused by mere desperation."

DR. C. C. MILLER replies: "I do not know the cause of this, and shall look with much interest for the replies of others. I had never had a case until this spring, and I have now had several. I do not know of anything different this spring, except that entrances have been much contracted. Could too small an entrance cause desertion?"

DR. G. L. TINKER remarks: "Without exception, the colonies deserting brood and hives in the spring, where there is plenty of honey left, are weak in numbers and weak in vitality, and have been dwindling. I have known this to occur several times in years past. The only hope of these colonies is the speedy hatching of the brood. Those who would save weak colonies in the spring, should carry them into a warm room every cool night, and keep them in on cool days. Unless this is done, they are liable to swarm out or die at any time."

PROF. A. J. COOK replies: "Some thing was wrong in the hive. It is hard even to guess what is was."

G. M. DOOLITTLE answers: "After having an experience of this kind several times, I am candid in saying that I do not know the cause of such 'swarming-out.' I used to try to account for it on the grounds of lack of stores, mouldy combs, etc., but after having several 'swarm-out' when all inside and out of the hive were in perfect order, I gave up that idea. It is something that generally follows a hard winter."

JAMES HEDDON says: "I have had, in all my experience, not to exceed a half dozen cases of spring-desertion. So far as I have ever seen, all was caused by imperfect wintering. It is usually caused by the bees becoming discouraged, and abandoning further effort to keep up the temperature so as to keep the brood from perishing. In all cases coming under my observation, the bees were badly reduced, and the number of bees compared with the amount of brood, was ill-proportioned, considering the outside temperature. Outside of these conditions, I have no knowledge of the subject."

Honey and Beeswax Market.

Office of the AMERICAN BEE JOURNAL,
Monday, 10 a. m., July 6, 1885.

The following are the latest quotations for honey and beeswax received up to this hour:

CHICAGO.

HONEY.—Demand is light and receipts are also light. Prices range from 10@15c. for best grades of comb honey, and for extracted, 5@7c.

BEESWAX—22@25c.

R. A. BURNETT, 161 South Water St.

BOSTON.

HONEY.—We quote the following prices: Fancy white comb in 1-lb. sections, 16@18c.; the same in 2-lb. sections, 15@16c; fancy white California 2-lbs., 12@14c. Extracted weak, 6@8c. Sales very slow.

BEESWAX.—32 cts. per lb.

BLAKE & RIPLEY, 57 Chatham Street.

NEW YORK.

HONEY—We quote: Fancy white clover in 1-lb sections, 14@15c; fair to good white clover in 1-lb. sections, 12@13c; fancy white clover in 2-lb. sections, 13@14c; fair to good white clover in 2-lb. sections, 11@12c; fancy buckwheat in 1-lb. sections, 9@10c; fancy buckwheat in 2-lb. sections, 7@8c. Ordinary grades, no sale. Extracted white clover, 7@8c; extracted buckwheat, 6@6½c.

BEESWAX—Prime yellow, 26@29c.

McCAUL & HILDRETH BROS., 34 Hudson St.

CINCINNATI.

HONEY—There is no change whatever in the market, which has been without life for some time. We have a good class of regular customers who use considerable honey, while outsiders can hardly be induced to purchase. We quote extracted at 4½@8c, and comb honey at 9@12c, on arrival.

BEESWAX—Demand is good and it brings 23@28 on arrival, for good yellow.

C. F. MUTH, Freeman & Central Ave.

SAN FRANCISCO.

HONEY—The market is quiet, there being no shipping demand and not much local trade. There are receipts of both old and new. One lot of 200 cases of old extracted arrived from San Jose. White to extra white comb, 7@9c; dark to good, 4@6c; extracted, choice to extra white, 4¾@5¼; amber colored, 4@4½.

BEESWAX—Quotable at 24@25c—wholesale.

O. B. SMITH & CO., 423 Front Street.

CLEVELAND.

HONEY—Is very dull just now during strawberry time, and although we hold at 14@15c per lb. best white 1-lb. sections, it is merely nominal, as there are no transactions. As soon as our people have satisfied their craving for acid fruits, they take very kindly to nice white honey, and we may look with confidence to a good demand in July, August and September.

BEESWAX.—Scarce at 28@30.

A. C. KENDEL, 115 Ontario Street.

KANSAS CITY.

HONEY—Small lots of new honey are beginning to come in, and fancy new comb brings a slight advance in the following prices: Choice ½-lb. sections, 15@16c; 1-lb., 13@14c; 2-lb., 10@12c. Extracted, new Southern, 5½@6c; California, 7c; new white clover, 8c.

BEESWAX—Weak at 25@30c.

CLEMONS, CLOON & CO., cor. 4th & Walnut.

☞ All who intend to be systematic in their work in the apiary, should get a copy of the Apiary Register and commence to use it. The prices are as follows:

For	50 colonies (120 pages)	$1 00
"	100 colonies (220 pages)	1 25
"	200 colonies (420 pages)	1 50

The larger ones can be used for a few colonies, give room for an increase of numbers, and still keep the record all together in one book, and are therefore the most desirable.

CORRESPONDENCE.

Explanatory.—The figures BEFORE the names indicate the number of years that the person has kept bees. Those AFTER, show the number of colonies the writer had in the previous spring and fall, or fall and spring, as the time of the year may require.

This mark ⊙ indicates that the apiarist is located near the centre of the State named: ♁ north of the centre; ♀ south; O+ east; +O west; and this ♂ northeast; ⌐O northwest; O⌐ southeast; and ♀ southwest of the centre of the State mentioned.

Bees at Work on the Linden.

[The following, says the *BeeKeepers' Magazine*, was read at a National Convention at Cleveland, Ohio, about 12 years ago. The wonderful yields of honey from basswood (linden) taken for three successive years by J. W. Hosmer, of Minnesota, made his fame proverbial, and the recital of the facts by Mr. Hosmer himself, so worked upon the poetic feelings of Mr. Whitford, that he at once transformed a sublime poem, recounting the results of the conflict of mighty armies at war, into that of a more numerous host busily engaged in pursuing the arts of peace.]

On Linden, when the sun was low,
(All ready were the combs of snow)
The bees began a feat to show,
Of honey-gathering rapidly.

'Twas noon—and yet the July sun
Was half bee-clouded by the run,
That streamed to show what can be done
From Mr. Hosmer's apiary.

With tiny trumpets fast arrayed,
Each "stinger" sheathed her battle-blade,
Nor laggard natives long delayed,
But joined the merry revelry.

Then shook old heads with wonder riven,
As past the bees their teams were driven,
For swiftly through the light of heaven,
Fair flashed the bright Ligurians.

And wider yet their fame shall grow,
On Linden's sweets in combs of snow,
And greater yet shall be the show
Of honey gathered rapidly.

Well, Hosmer saw a splendid sight,
As forth he went to weigh that night,
Commanding John, his man, to light
The darkness of his apiary.

The gain that day, per single hive
Was two pounds less than fifty-five;
No wonder, then, bee-keepers thrive
Who understand their bees-ness.

The interest deepens. On, ye brave,
Whose work and glory 'tis to save
Our friends, the bees, from cruel grave
Beneath a sulphurous canopy.

Ah! few shall fail, and many meet
Success like this authentic feat,
When every flower beneath our feet
Shall feed some dainty epicure.

For the American Bee Journal.

Among the Bees in Spring.

16—G. M. DOOLITTLE, (80—50).

The warmth of spring has at last reached us here in Central New York, and the bees are enjoying it from morning till night, at work or play (they act more as if playing than anything else), in the millions of yellow tassels which hang from the hard maple, from which but little else save pollen seems to be obtained; also upon the long, cone-like blossoms of the golden willow from which they are getting honey more abundantly than they have done for several years past. A peep inside of the hives of some of the strongest colonies, shows that the cells are being lengthened along and near the top-bars of the frames, which are well-filled with new honey; with all below full of brood in all stages, except as some of the combs have nearly as much yellow pollen in them as there is brood and honey. This, of course, indicates prosperity, and gives joy to the heart of the apiarist. As I pass on from hive to hive, this joy disappears, for soon I come to hives from which no bees are seen to issue, while others are so weak that perhaps a minute will elapse when but a single bee will go forth to the fields or return with her load of pollen. Perhaps these hives contained my most populous colonies last fall, but now they are no more, or are so depopulated as to be of little value during the season of 1885.

But it is of no use feeling gloomy or sad, for this condition of things arouses to action, and a feeling steals over me to see how great an amount of cash and fun can be gotten out of what bees I have left, by dint of hard work, and an untiring energy bestowed upon them. But before setting out for this purpose, I must glance at the little blocks put on each hive, which tells the condition of each colony last fall, and the kind of stores it contained, so that if possible I may have some guide in the future, by which to shun, if possible, a like disaster in coming years. This glance reveals that of those having natural stores, one-third are dead, one-sixth are weak, and one-half are the strongest colonies I have; some of the hives being full even to the outside of the outside combs. Of those having only sugar syrup for stores, one-half are dead, one-third are weak, and one-sixth fair, with none as good as the first named. These latter had very little if any pollen. Of those having stores of both honey and sugar syrup, a la Hill, one-fourth are dead, one-half are weak, and one-fourth from fair to good; by which it will be seen that of the three, those wintered on their natural stores of honey and pollen have really the most value in them.

Regarding cellars and out-door wintering, I have the most colonies in number left from those wintered in the cellar; but if the bees and brood are to tell the story, those wintered out-doors in chaff-packed hives will count nearly two to one of the others, by all of which will be seen that this time I have gained but little light on how to winter bees. But the winter is past, and we have now to do with the present, and the first thing I am to do is to get each hive in as good shape as possible, for the comfort and prosperity of its occupants. So I now begin on one side of the yard and open the first hive. This I find has brood in only two frames, and only small patches at that; while the little honey there is, is scattered throughout the hive. I take the two frames having the brood in them and set them close to one side of the hive, and then take all the other combs (after brushing off the few straggling bees there are on them) to the shop. After getting a comb well filled with honey, from the shop, which was left by some of the dead colonies, I return and place it close beside the other two combs having the brood, after which a division-board is nicely adjusted to suit the requirements of the little colony, when the quilts are carefully tucked about them on top and down the side of the division-board, and the cover put on.

The entrance to the hive is now regulated so but one or two bees can pass at a time, and is so fixed that it comes beyond the division-board, thus shutting off the cool outside air from coming directly upon the bees. I now place a small stone in such a position on the cover that it tells me in the future at a glance how this colony is fixed, and I pass to the next. This I find to be strong, having brood in several frames, while the sealed honey along the top-bars of the frames tells that no stores are needed. This colony needs no shutting up or anything of the kind, except to carefully tuck the quilt down at the top, and give them about two inches in length of entrance, when the little stone telling the condition is placed on top.

The next proves to be hardly a fair colony, with lots of dead bees on the bottom-board, which are carefully removed, or a clean bottom-board substituted. As they have brood in only three combs, they are treated similarly to the first, except that a frame of honey is placed on either side of the brood, for such colonies are often apt to get short of stores, as they have few bees to gather from the flowers; yet they will rear brood quite rapidly.

In this way I go over the whole yard, putting each colony in the best possible condition, when they are left undisturbed until the time willow and hard maple bloom. This part of the work is done at the time pollen first becomes plentiful, and not during the time willow and hard maple is in bloom, as perhaps the forepart of this article might lead one to believe.

But now the willow and maple are in bloom, and again I go over the yard as before, so I will again commence with colony No. 1. After opening the hive, the first thing I do is to look for the queen to see if her wing is clipped, for you know Doolittle is one of those believing in having all queens' wings clipped. If I find her wing not clipped, I take out my jack-knife, the little blade of which I generally keep sharp, and holding the frame upon which I find the queen, in my right hand, I carefully pick the queen off by taking hold of her wings with the thumb and forefinger of my left hand. I now lay the frame flat down so the corners rest on top of the hive, thus keeping it from catching any bees below it, and between it and the top of the hive, when I place the sharp-edge of the knife-blade on the queen's wings held between my thumb and forefinger. Both hands are now lowered within an inch of the flat surface of the comb, when the knife is carefully drawn a little and the queen falls wingless on the comb, and walks about as if nothing had happened. Do not say that they are clipped too short, for I can find two queens with wings thus clipped, to where I could find one if only a little of the wings were cut of. There is no danger of cutting my fingers if I stop drawing the knife as soon as the queen falls.

Having clipped the queen's wing, I observe the brood, and if I find it near one end of the frames (there were but two having brood in them in this hive, you know), I change ends with one of the frames which causes the bees to fill the other ends with brood. If there is still plenty of honey the hive is closed, and the little stone moved to another part of the cover, so as to tell me what was done last. I now mark the hive as having a queen with her wing clipped, and I proceed to the next, clipping the queen's wing, if not already clipped, after which I change the brood right around, i. e., I place the outside frames of the brood-nest in the centre, and the centre frames on the outside. Do not understand by brood-nest, brood-chamber, for often this brood will be in only 5 or 6 frames, and if I put the centre of these on the outside of the brood-chamber, so that frames having no brood in them came in the middle of the hive, I should spoil the whole thing. The idea is this: The combs on the outside of the brood-nest are from one-third to one-half full of eggs and larval bees, while those in the centre are full of sealed brood. Now this sealed brood can stand a greater degree of cold than can the eggs and larvæ, yet it is in the place where it gets the most heat, so by changing it around I get the brood in right shape as regards heat and cold, and also coax the queen to fill the partly broodless frames in short order, even clear down to the bottom-bars and out at the corners, which gives me a hive chock-full of bees in the right time for the honey-harvest. The getting of bees in the right time for the honey-harvest counts more toward cash and fun in the apiary, than all else, unless I have made a great mistake during the past 16 years of my bee-keeping. In this way I go over the whole yard, looking after both the strong and weak colonies, after which it is again left undisturbed until about the middle of the apple-bloom.

At this date I find that I have left, after my sales and losses, 25 good to fair, 15 rather weak, and 10 very weak colonies, making 50 in all, left out of 80 last fall.

Borodino, N. Y., May 20, 1885.

* * *

Read at the Western Maine Convention.

The Bee at its Best.

L. F. ABBOTT.

Taking the bee as we look at it flitting from flower to flower, it has no special significance beyond a hundred insects we could name, either in beauty, size, or general appearance. In fact, the bee is rather an ordinary looking insect, and stripped of its glorious record it has made for itself as a producer of an article of commerce which ranks as among the delectable and choicest productions drawn from nature's laboratory—if we let it alone and do not presume to trifle with its free agency very essentially—it would pass for rather an ordinary, sober kind of an animal, rather stirring in its habits, to be sure, but possessing no very marked peculiarities.

But the bee needs to be seen at home to see it at its best. When we view a few quarts of our shiny black ones or the golden-banded Italians, busily caring for their thousands of young larvæ, preparatory to laying in a store of the choicest nectar ere the May flowers turn brown and the apple blossoms unfold their petals, then we see the bee in one of its most inspiring aspects.

Hence, the question introduces itself, when is the bee at its best? And in answer to that question we must say, that depends to what period of its existence the question relates. If I induce my bees to breed up late in autumn and then put them into winter quarters where they keep quiet till March heralds the approach of opening spring, and not much brood-rearing has been carried on during the interim from going into winter quarters, many of us would say that the bee was at its best under such conditions. That would have been the judgment of the writer a few months ago, but some things of late point to that condition of things as a little moonshiny.

Our bees, we know, did not breed after Sept. 25, 1884, unless in one colony the queen commenced to lay again in November, which we strongly suspect she did do, and unless this were the case, the main part of the bees which braved the rigors of our past cold winter were mainly bees batched in August and before; but they came through the winter bright, and apparently as strong as in the fall.

Here is another point which came to my notice a few days ago, which shows that bees may and do breed in winter. A few days ago a friend of mine informed me that late in November last, he superseded a black queen in a good colony, giving it an Italian queen of his own rearing in exchange. At the time of her introduction there was no brood in the hive. He placed the colony in the cellar with others. His cellar was kept at a temperature ranging from 31° to 37°, the average being about 35°. This spring, on putting out the bees upon the summer stands, this hive with the Italian queen introduced to black bees in November was found to have fully one-third of its bees pure Italians, and the colony in good condition and strong. The question well may be asked, are bees wintered in the cellar at so low a temperature as 35°, at their best?

There is one point which I am fully convinced is conducive to putting the bee at its best, and that is, to put each colony to be wintered in proper condition for wintering, at latest by the middle of October, or at any rate when the weather is warm enough so the bees will cap in the syrup which is best to feed them for winter stores. I am so well satisfied on the point of wintering bees on sugar syrup, that I do not hesitate to proclaim that the bee is only at its best when it sits down to its table in winter to an exclusive diet of pure granulated-sugar syrup.

Another essential point is, that the colony be fed sufficient to insure a full supply of stores to carry it through all contingencies till May 1, at least; because I do not consider the bee at its best unless it can calmly, with smiling countenance, feel beyond the reach of possible contingency of lack of stores to foster its young during the coquetting of April with winter; enabling it to keep at home and "snap its fingers" at the weather till May wakes the willows and maples.

I do not believe it best to disturb the bees by feeding them for stimulation, as it is termed, very much before frogs peep and the swallows fly; nor then, if there are cold rain-storms and the wind is tempered from snow-clad hills. Cover the bees up warm in the fall—in chaff hives, if possible—and give them a thick covering of dry material above the bars, and do not disturb them, only when absolutely necessary, till the swallows come. Thus, for the time of year, I believe the bee will be at its best.

Bees fed at any season means accelerated activity. A little honey clandestinely obtained sets the whole colony in an uproar. When bees are fed in the evening, if the air is frosty, numbers will sally out of the entrance to make believe they are bringing in stores from the fields. Nor do they forget the good luck when the morning comes. Numbers fly out, and in unpropitious weather become chilled, and on the whole, I am of the opinion, as a rule, feeding in April to stimulate to brood-rearing does not result in gain, but often is the means of a positive loss, as the increase of young bees no more than balances the loss of the old ones which come to an untimely end by the exercise of an unwise ambition.

Hence, I believe the bee is best let alone, to keep it at its best through the critical period of our changeable spring weather; but when May opens with warm nights as well as days, give them all the feed they need, even if a little accumulates in the combs.

It is a bad sign to see immature brood carried out in the night and lying about the hive entrances. That is a pretty sure sign the stores are short. This condition of things should not be allowed to occur, but be sure and feed so that the contingency of long storms may be provided for in giving an abundance of feed at once.

Lewiston, ♀ Maine.

* * *

For the American Bee Journal.

Successful Wintering of Bees.

IRA BARBER.

On page 358, Mr. James Heddon says that I can fix my cellar as I choose, and if I will let him fill the honey that the bees are to winter on, with floating pollen, my bees will rapidly accumulate feces. I will say in reply that I have wintered a great many colonies on combs taken from colonies in the fall that had been queenless since June, with nearly every cell of which contained pollen and honey, and there was no signs of any discharges from the bees. The bees mixed it to suit themselves, and came out in good condition. I should have no fear of any honey containing enough floating pollen, as the bees gather it from the flowers, to injure them in the least; but what effect a mush made of honey and pollen would have, I leave to the readers of the BEE JOURNAL to decide.

Again, Mr. Heddon asks if any one can show by any method of wintering bees 151 days in confinement, and no discharge where not fed on sugar syrup. My answer is that the most of my bees were confined from 160 to 169 days, and not a speck was to be seen in any of the hives, except about 20 colonies that were placed near the bottom of the cellar, and there was not a speck to be seen on their hives when the cellar was first opened (April 17). If there was any discharges from Nov. 20 up to that date, it was in a dry state.

I put 200 colonies into winter quarters, and took out 196, and to-day every colony is alive and in a flourishing condition, except 2 whose queens failed, and will require help to bring them up. All can see that they must have wintered well to be able to withstand this severe spring. Swarming commenced on June 13, and to all appearances there will be plenty of it.

Mr. Heddon asks, "If they who lose bees most are not most apt to find out the cause of such loss." My answer is, yes. Long before Mr. Heddon knew a bee from a beetle, I was losing hundreds of colonies in trying to find out where I could keep them through our long, cold winters with safety; I found it out more than 20 years ago, and I have told the readers of the BEE JOURNAL the place to keep them at least twice if not more. Why you have not succeeded is because you have never put your bees in a warm cellar, as was described years ago.

I do not consider 42° warm enough. Cold is the cause of the largest share of all our losses in winter. Bees can pile in all the pollen they see fit to, in the winter they can eat all they care for, and what is left over after the long, cold winter, they can throw out of the hives, and it will do no man's bees any harm if they are properly cared for in winter. I have no time now to tell Mr. Heddon how he can winter his bees on honey and pollen, and save all the labor and expense of feeding sugar; but next fall I will be at the National Convention, at Detroit, if I am alive and well, and I hope to meet Mr. Heddon and hosts of other Western bee-keepers that I have long known by reputation.

De Kalb Junction, ♁ N. Y.

For the American Bee Journal.

Honey and Comb to Order.

A. A. FRADENBURG.

At about the close of the Ohio State Convention, last winter, we were discussing the article on page 83, when a middle-aged gentleman remarked that we would have to fight the manufactured comb honey pretty lively, for the country was full of it. We asked him what he knew about it, and he said that he had seen lots of it. Upon being asked when and where, he said that for 25 years he had been a commercial traveler, and had for 7 years traveled for one firm in Columbus, where he lives, and he had often seen the stuff in Indiana, Illinois, Missouri, and Kansas, and that he knew it to be manufactured, by its having a smooth and almost polished surface, while the genuine article always presented a rougher appearance. He said that it was found in little, square boxes holding about one pound each. He is not a bee-keeper, but he thought of getting bees in the spring, so he came in to hear and learn.

Of course we had a lively time for awhile, asking questions. He finally said that on seeing us all so earnest in our belief that it could not be true, that he almost doubted it himself, and that he must in some way have been deceived.

The conclusion which I then came to, and still hold, was, that the gentleman was mistaken; and if he does again come across the article, it will turn out to be a fine specimen of pure honey in sections. He said that he had talked with the dealers about it, and they said that they did not care, as scarcely any of their customers could tell it from pure honey, and they could sell lots of it just the same.

A year ago last fall I was talking to a commercial man about the difficulty in selling extracted honey, and he said (and I believe in all sincerity too), that it was because there was so much artificial comb honey on the market, that the people were suspicious of any kind of honey.

Port Washington, o+ Ohio.

[The following paragraph on the same subject, taken from the *American Cultivator*, was sent us by Clarence M. Weed, of Chicago, Ills. It is a digest of several articles taken from the *Philadelphia Times* and other newspapers, which were forwarded by Mr. Marion Miller, of Le Clair, Iowa, and others. Having repeatedly exposed these and similar fabrications, we deem it unwise to reiterate such foolish stories:

"The *New York Sun* says that much of the fine comb honey exhibited in glass boxes in New York City merely represents Yankee skill; the comb and the honey never saw bees. They were manufactured by human hands, the comb of paraffine or beeswax, and the honey, which is also false, blown in by machinery. Another kind of honey which is put up in glass cups, with a small piece of comb in the centre, is made from cane sugar, glucose or syrup."

[Mr. Wm. Robson, of Rolla, Mo., who has also sent one of these articles from the *St. Louis Globe-Democrat*, adds the following:

"The writer has carefully withheld his name; of course, a genuine and deceiving liar does not want the world to know his habitation. Every bee-keeper who may chance to read the description of the spurious honey knows full well of the truthfulness of such statements; but the ignorant are being deceived and led to believe that man's ingenuity has almost superseded that of our natural mechanics—the honey-bees.

"I would like to see some of the fine samples alluded too, and examine the cells, cappings, and the fine finishing touches given to keep the honey in place, etc. I imagine it a leaky job, and like the truthfulness of such a report, will "leak" out to be known as a genuine falsehood."

For the American Bee Journal.

The Texas State Convention.

The Texas State Bee-Keepers' Association met at the apiary of Judge W. H. Andrews, McKinney, Texas, on May 7, 1885.

The meeting was called to order at 10 a. m. by the President, Dr. Marshall, and his opening address was most cheerful, and seemed to brush away the clouds from the faces of those present whose stores, as honey-producers, had not been blessed during the last two years; and he asked for the sympathy of those whose hives had been filled to overflowing, as in the case of those in the Vice-President's county, and of a few other sections of the State. He looked forward with much solicitude, to the development of the next 8 weeks; he thought that the life of our association was hanging upon those developments, but that our prospects now were quite flattering.

At the conclusion of his address, the President, noting the Secretary's absence, on motion appointed John S. Kerr, Secretary pro tem. At the proper time, McKinney, Tex., was selected as the place, and the first Wednesday in May, 1886, as the time for our eighth annual meeting. Mr. W. R. Graham, of Greenville, was elected President, and G. A. Wilson, of McKinney, Vice-President; B. F. Carroll, of Dresden, Secretary, and M. H. Davis, of Howe, Treasurer; and W. H. Andrews was appointed to represent Texas in the next meeting of the North American Bee-Keepers' Society.

After the President announced that the meeting was open for discussion, questions were presented in an informal way, and discussed with much energy and good feeling, and resulted in one of the most profitable meetings ever held by the Association. The following is a part of the discussion:

"Should bee-keeping as a specialty, in Texas, be encouraged?" was discussed, all taking the affirmative, or splitting the question, except Judge Andrews who took the negative squarely, upon the ground that the affirmative tended to make bee-keeping less general—putting it in the hands of a few—whereas he wished to see it as general as the cultivation of corn and cabbage; he wanted to see all the little prattling tongues sipping home-produced honey as freely as branch water. Honey is cheap if produced at home, but dear if it is "bought truck." He wanted all to be encouraged to keep bees to the extent of their necessities—and let the honey market take care of itself.

Mr. W. R. Graham said that he thought the seasons, of late, had rendered the pursuit a little too uncertain to be relied upon exclusively for a livelihood, but still he thought that those possessing proper qualifications should be encouraged to make bee-keeping a specialty; for he did not think that implied making it the chief employment.

Judge Goodner, Mr. Davis and Mr. Horn spoke upon this question, taking modified affirmatives. Dr. Marshall said that he held the affirmative in its strictest sense; that he thought that qualified persons should be encouraged to make it an exclusive business; that there was work for every day in the year, and that profitable work; and that it is the specialists who bring light upon our pathway.

Judge Andrews replied: Let the light of the specialists shine brigher than the very sun, but those specialists would not put good home-produced honey into the mouths of his neighbor's children, but rather deprive them of this, the best of sweets.

"What are the essential points in a location for an apiary?" Mr. Carroll, Judge Goodner, Mr. Wilson, Dr. Marshall, Mr. Graham and others took part in the discussion, but there were no material differences; but Mr. Graham made some remarks relating to the subject, which, though a little off the point, are worthy of special notice. He said: It was said by an enthusiastic Texan in the North American Bee-Keepers' Society at Cincinnati, in 1882, that horse-mint always yielded honey in great abundance; that the weather was never too hot or too cold, too wet or too dry for that wonderful honey-plant of Texas. This, said Mr. Graham, is a great mistake; only last year we had the mint-bloom in great profusion, but my bees ran over them like a chicken over a bed of hot ashes, and looked disgusted when they hopped off. It requires certain climatic conditions to cause the mint-bloom to secrete its rich and aromatic nectar which makes the Texas bee-keeper so joyous.

"How shall we dispose of laying workers?"

Mr. Carroll said that he thought it was best to build them up with brood which would soon result in a normal condition. This idea was concurred in.

"Is there bee-diarrhea in Texas ?"

Mr. Carroll said that he had had cases of real diarrhea in his apiary, and that it could be produced at any time by feeding, and giving the bees no chance to take a flight.

Dr. Marshall said that the bee-diarrhea of the North is very different from anything we have.

Judge Andrews said that he was quite certain that voiding accumulated feces after a Texas "norther" is very distinct from the results of that highly inflamatory disease known in the North as diarrhea, which does not abate even with a change in the weather and an opportunity for a flight.

"Is there 'spring dwindling' in Texas ?"

Judge Andrews said that there was not —and there was no further remarks upon the question.

"How do we know that the queen lays drone eggs ?"

Dr. Marshall said that though he had never seen a queen lay drone eggs, yet there are circumstances that demonstrated that she does. He then stated many nice points showing the correctness of his position.

Judge Andrews said that the proper use of the microscope had demonstrated, over and over again, that the queen lays drone eggs.

Mr. Carroll said that Mr. Langstroth had seen queens lay drone eggs.

"Is there any practical way of preventing after-swarms ?"

Mr. Carroll said that in nine cases out of every ten, by cutting out all queen-cells on the fifth day after the issuing of the prime swarm, will prevent an after-swarm.

Judge Andrews said that he thought it less trouble to hive the after-swarm and build it up from the parent hive, taking about one-third of its combs, brood and adhering bees, placing the after-swarm's hive upon the stand of the parent hive, and using the remainder to build up other weak colonies.

"What is the test of purity in Italian bees, as distinguished from blacks ?"

Mr. Carroll said that the test is three distinct yellow bands on the workers, and a good disposition. Judge Andrews concurred in what Mr. Carroll said.

"What is foul brood, and how should it be treated ?" was discussed at great length.

Dr. Marshall described it very minutely, and gave his experience with it both in the North and in this State, and gave the result of his observations last spring in the apiary of Dr. West, in Tarrant county, having gone home with that gentleman from our last convention, for that purpose. He thought that it never could come from chilled brood, and that after all that had been said and done, the best remedy was a big, hot fire well and thoroughly applied.

Judge Andrews agreed with Dr. Marshall in his description of the disease, and the utter futility of all efforts to save the bees, but he thought that the honey, combs, hives and frames might be renovated by boiling; but thought that this was risky, except in the most careful hands.

Mr. Carroll said that bee-keepers could not be too careful in this matter, and that it was his opinion that it might be produced in the process of decomposition of chilled brood; that there were too many "ifs" and "ands" in all the remedies now offered, except fire.

"What is the best method for the introduction of queens ?

Mr. Carroll said that he introduced from 300 to 500 queens every year, and that he never caged them if there was then a good honey-flow; he turned them in at the entrance at dark, preceding them with a liberal smoking, and following them up with a few puffs. In case of a very valuable queen to be introduced, he cages her, puts her among the bees, and lets her remain so for three days, and then liberates her. Much depends upon the queen as to her acceptance.

Judge Andrews said that he always caged his queens (except in cases of experiment), for he never introduces one that he can afford to lose. He keeps her confined for two days, near the middle of the cluster, then removes the reigning queen and liberates the new one. Some queens he liberates sooner than at the end of two days, for he can invariably tell by looking at the bees upon the cage whether it is safe to liberate her or not. Other queens need to be kept confined longer than two days; the further the colony is from the normal condition the less inclined all queens are to be reconciled to them. He never feared that the bees would not feed the caged queen. The presence of a reigning queen did not affect them in the least. If the queen, when let upon the comb, tucks her head, humps her back, and hoists her wings, he recages her at once. These actions are unmistakable, and indicates great dissatisfaction on her part, and a "balling" is sure, if she is not recaged. He did not wish to be understood as holding that the retention of the old queen was a point in the safe introduction of the new one, but only to save her two days work in the colony, for he did not rigidly observe this rule except in April and May, these being the months in which the workers are bred to gather from horse-mint, and numbers are then essential. It also prevents the loss of work by the workers, from the great commotion that follows the missing of the reigning queen, and prevents the starting of queen-cells.

"What markings indicate impurity of blood in Italian queens (so-called) ?"

Judge Andrews said that this is an important question, as thousands of queens are sent out every year that show marks of impurity in their blood that no man need mistake. If young, she must be bright; if one, two or three years old she may reach the very dark leather color we hear so much about, for all queens grow darker as they grow older. There are many shades of bright yellow that do not tell against the blood of a young queen, but stripes across the back of the abdomen are certain marks of black blood; small dark brown specks are allowable, but black stripes never! The stripes are on the outer edges of the second, third and fourth segments, counting from the point of the abdomen, and they are somewhat crescent in shape; while the spots or specks are on the inner edge (the edge joining the next forward segment). A queen, the back of whose abdomen is very bright orange in color with a dark brown point, will breed much more beautiful workers than a queen with any other or no dark or black upon her. She will come nearer always duplicating herself in her queen progeny than those that have the least dark in the general yellow, or those that have spots or specks: so, while he does not condemn those with specks, yet he does not like them, and does not breed queens from them; even though they may be daughters of the finest breeding queens known; for so sure as he is capable of observing such matters, there is more than mere blood entering into the production of first-class queens, but it is not easy to determine what it is—in other words, all pure blooded Italian queens are not the same in color, nor are they all suitable for queen or drone mothers, even though they may breed as good worker-bees as any.

At this time Mr. Andrews was asked, "What about the swarming impulse?" He replied that he regarded that as a patent-right queen-breeder's humbug; that he had reared as good queens in September as in May; and if a choice queen leads a swarm, and in a few days afterwards she be removed, the workers will rear just as good queen-cells as were reared by them in the old home under the "swarming impulse," as it is called. He does not believe that small, half-starved nuclei can produce or develop a first-class queen.

Mr. Carroll said that he concurred in the main as to the statements made on this question, and added that he could rear dark queens from bright mothers by placing their brood in small, illy-provided nuclei, when the temperature would be below normal in a prosperous colony, and that well-reared queens placed as soon as hatched in such nuclei, would be seriously affected in their development.

"Can drones for fall breeding be provided at will ?" Mr. Carroll said that he always succeeded in so doing, by simply selecting queens from which to breed them, and putting a nice empty drone-comb in the centre of the hive, then feed them moderately on sugar syrup for a few days, and drone eggs would be the result; then remove the queen and keep the colony without a laying queen as long as one wants the drones preserved.

Judge Andrews said that he concurred as to the preservation of the drones, but that he had never had success worth naming, in the production of drones out of swarming time; they were to be found in his apiary from March to November, but not of his choice colonies always, but as liable to be of the poorest as of the best blood. JNO. S. KERR, Sec. pro tem.

DR. W. K. MARSHALL, Pres.

For the American Bee Journal.

Wintering Bees, etc.

W. H. STEWART.

In this Northern climate a skillful apiarist may succeed in wintering bees on the summer stands for several winters in succession, without serious loss; but as often as once in 6 or 8 years it so happens that the bees are nearly or quite all dead in the spring. At least this has been my experience; and after I had three times thus lost all the bees that I was able to get on hand by 6 or 8 years' hard work and close attention, I decided that I must winter them in a cellar, or get out of the business. I then prepared an out-cellar in a sand-bank, and put the bees in, in the day-time; and in handling the hives in daylight, I found that many bees would fly out, and others run out and crawl around in the cold air and become chilled and lost.

Again, I took the advice of some bee-masters and carried the bees out on a nice, warm spring morning, and I found that in handling and carrying some of them 10 or 15 rods, and placing them properly on the stands, the bees would get considerably aroused, and as they seemed to be overjoyed at the first appearance of the bright sunlight, after their long confinement in a dungeon, they rushed out *en masse*; and by the time I had 60 or 70 colonies out, the air was literally full of bees, in the greatest excitement; and on their attempt to return to their hives, it was apparent that few, if any, of them had marked well the locality of their own stand, and consequently confusion prevailed, and the excitement became intense.

For about three hours I was fearful that I would lose most of my bees, but they settled the muddle as well as they could; and as I looked them over I found that many bees had been and were on the bottom-board half dead and dying, and many colonies that appeared strong when carried out, were much reduced in numbers, while others had been replenished.

To avoid the recurrence of the same state of things, I decided to carry them into and out of the cellar after dark; and as they are not inclined to leave the hive when it is dark, very few bees are lost when placing them in the cellar. When they are carried out in the forepart of the night, if they get somewhat aroused by handling, they will have ample time to quiet down before morning; if the next day be cool, they will not leave the hive; and if it be very warm and pleasant, they will not be so excited at the first appearance of the sunlight that comes by slow degrees, and as they then leave the hive, they will mark its locality, and no great confusion is manifest.

In this, and all other portions of our work, we do well to see that everything is done at the proper time, and during cold weather we may be in a warm shop making the hives and frames for the next season; when it gets a little warmer, we may make up our wax into foundation; and when it is yet warmer we may fasten the foundation into the frames, and have all ready when the hurrying time comes.

Apiculture is a peculiar business. If one would make it pay, he must do most of the work with his own head and hands; for

> "He that by the plow would thrive,
> Himself must either hold or drive."

If we let work go that should be done in winter, until the busy season comes, we must then hire help, which reduces our net gain, which is small enough at best. Procrastination is death to bee-keeping. None but wide-awake, perpetual, everlasting workers will prosper in this business.

Not slothful waste, nor reckless haste,
Can e'er secure the goal,
Would we succeed;
With discreet mind and ready hand,
And with undaunted will,
We may proceed.

Orion, Wis.

For the American Bee Journal.

Wintering Bees on Sugar Syrup.

G. L. TINKER, M. D.

The subject of wintering bees has become the all-engrossing one. Indeed, here at the North it is becoming a serious matter. If we are to lose, every three or four years, one-half or three-fourths of our bees in wintering, it cannot fail to depress the bee-keeping industry. At no previous time have there been such sweeping losses as to wipe out almost entirely the native stock of bees, as in this instance. It becomes the duty, therefore, of every one interested in the welfare of bee-keepers, to set forth such facts and to offer such suggestions as may be thought to aid in farthering the solution of the problem of successful wintering.

My own experience is, that winter loss other than accidental is needless; and that every bee-keeper should be able to winter bees with proper care. First of all, I wish to remark, if it shall ever be established (which I am firmly convinced it will not be) that bees cannot be wintered here at the North upon their natural stores, it will be a sad day for the devotees of apiculture. Be sure that in casting up the balance of profit and loss, if bee-keepers shall be obliged to substitute sugar syrup for the natural stores, in order to winter their bees, their accounts will not fall to the side of profit. And although sugar syrup appears (?) to be safer than honey for wintering bees, I think that its use, except in cases of necessity, as where the bees are short of stores, should be disconraged. I coincide fully with Mr. Doolittle, that it is impracticable in preventing the occurrence of bee-diarrhea. Not only Mr. D., but a number of others have reported fatal cases of diarrhea where nothing but sugar syrup was allowed. We say "nothing," for the few grains of pollen that may be discovered in empty brood combs with a microscope amounts to nothing conceivable unless we are prepared to accept the infinitesimal doctrine. Microscopic pollen in brood-combs is much like "floating pollen" in honey—neither exists in quantities sufficient to bloat up the body of one bee though it should eat all the pollen in a dozen empty combs, or all that might exist in a hive full of honey.

Feeding sugar syrup is not only impracticable in preventing bee-diarrhea, but in the matter of the expense and labor necessary to effect a change of the stores every fall. It also has a dark side in another direction. A few days since an old farmer who had kept many "scaps" from boyhood up, called to see my bees. He had lost all of his the past winter for the first time, and wished to get more. He exclaimed over the docility and great beauty of the bees, but said: "Doctor, I have heard that you feed sugar to your bees, is that so?" I replied that I did sometimes. "But how do you get such white honey [with a scrutinizing look], don't you feed sugar to get that?" I said "No; not a bit of it." But I found great difficulty in persuading him that I only made use of it to supply colonies deficient in stores for winter. But this man is only one among many whom I have met having similar views. It is plain if we must feed sugar by the barrel to winter our bees upon, we shall be at least open to grave suspicions that if we do not actually feed it to get comb honey, it will somehow or another get into the section-boxes. The impression also goes abroad, if we feed so much sugar, that either the bees cost more to keep them than their surplus honey is worth, or else we *must* make use of it in producing comb honey.

If sugar syrup was in any way essential to successful wintering, I should feel differently in this matter, but under the circumstances I feel like urging with all the influence I possess, that bee-keepers cease to feed sugar except in cases of necessity where comb honey or extracted honey is not readily obtainable. We are unjustly charged already with many things, but this contemplated wholesale feeding of sugar, on the strength of an improved theory, will lay us open to serious and damaging charges that we may never cease to deny and explain away without ever fully convincing any body, that some of the great amount of sugar fed does not get into our comb honey.

Another fact that should be thoughtfully noted is this: If honey-dew, under proper conditions, is safe to winter bees upon, as Mr. Boardman, Dr. Southard and myself have found upon careful tests, we do not need to trouble ourselves much about the superiority of sugar syrup over good clover or basswood honey. No doubt it furnishes the most heat, as first pointed out by myself, but it is equally true that honey-dew furnishes less heat than clover honey. But there is a way of conserving the heat of a colony of bees in winter indicated clearly in my answer to Query, No. 73, that I have practiced for several years, until I have become fully satisfied that it involves one of the greatest secrets of successful wintering. The above gentlemen have practiced with most signal success the same method. With these facts before us, it does not seem to be essential to use an agent solely because an equal quantity of it is capable of furnishing a little more heat when consumed by bees.

Mr. Doolittle has made an effective and sensible defense of the practical methods in wintering bees. It is my turn now to review the methods that promise only disaster and ruin to the industry of bee-keeping, if followed up. In a future article I will present my views on the cause of bee-diarrhea, and indicate the conditions which must be observed to secure success.

New Philadelphia, Ohio.

For the American Bee Journal.

That Lawsuit, Transferring, etc.

A. J. COOK.

Every day since I saw Mr. Heddon's proposition to organize a national defense association, I have meant to write giving my approval, and promise of support. Each bee-keeper is interested in this matter, and none of us can afford to let this case be decided adverse to right, which means the bee-keeper's interest. I hope that the best counsel will be secured, so that the matter may be thoroughly tested, and, if necessary, the case should be carried to the highest courts of the State. Not only is this question being agitated in Wisconsin, but also in Western Michigan—along the fruit belt—and in California. An unjust verdict in Wisconsin means constant irritation, vexation, and litigation the country over. Let us all hasten to the rescue.

NEW METHOD OF TRANSFERRING.

I notice that the brief answers in the Query Department are apt to lead to misunderstanding. That I ever meant to leave brood to chill, in using the Heddon method of transferring, is not true. Of course if such transferring is done early, great care is required. As I stated in my Manual, the bees must be carried to a warm room. I have tried this method, and with the best of success and very little labor. I can heartily recommend it. Mr. Clute, who I know is very cautious, full of tact, and one of our most intelligent bee-keepers, has certainly not given this method a fair trial, or I am sure he would not condemn it. I never, on my own authority, praise such a thing till I have thoroughly tried it; then I know whereof I affirm. This method carefully practiced is just as safe as the old way, and much quicker, and much less laborious.

IS BEE-BREAD ALWAYS POLLEN?

What does Mr. Heddon mean, on page 393, when he says: "Bee-bread is always pollen?" I do not think this is correct, and I do not think that Mr. Heddon does. I should say that bee-bread is the nitrogenous food of bees; that it is usually pollen; that it may be flour or meal; and that sometimes, perhaps rarely, perhaps not, it is made up of spores of fungi. One of my last year's students, Mr. O. L. Hersheser, now in charge of a large apiary at Water Valley, N. Y., writes me that his bees have carried immense stores of bee-bread from the destructive blackberry or raspberry orange rust, which has been so common and so injurious in several States for a few years. Dr. Beal and I have thought that we had discovered spores several times in examining feces. Surely Mr. Heddon did not mean what he is reported to have said!

While I am writing, let me say that had not Mr. Doolittle said so often to us that he was not educated, we should hardly believe it. With hosts of bee-keepers all over the land, I always turn with pleasure and peculiar interest to his articles, feeling sure I shall gain some valuable hints. I feel very much indebted to Mr. Doolittle not only for his public articles, but for many valuable private hints which I have ever found him ready to give upon inquiry. If what I wrote seemed harsh, I most heartily withdraw it and beg pardon, for I could never wish to pain any one, and certainly not one whom I count as a warm personal friend.

Agricultural College, ♀ Mich.

* * *

☞ The Union Bee-Keepers' Association of Western Iowa will meet in Stuart, Iowa, on July 25, 1885, at 10 a. m.

M. E. DARBY, *Sec.*

☞ The Bee-Keepers' Association of Central Illinois will meet at Bloomington, Ills., on July 15, 1885, at 10 a. m.

WM. B. LAWRENCE, *Sec.*

For the American Bee Journal.

Visiting Indiana Bee-Keepers.

L. R. JACKSON.

Having lost all my bees (94 colonies), during the winter and spring, I started on a visit among bee-keepers to learn what I could of the cause of our heavy losses. Through Johnson, Bartholomew and Jennings counties I found almost total losses in the apiaries. In many places the bees are all dead, and what are left are nearly all weak and in poor condition to do much toward building up this season. A few have wintered nearly all their bees, having given them just the same treatment as those that lost all did theirs.

In Jefferson county I found but little loss, and bees are generally in good condition. At Dupont I called upon Mr. S. E. O'Neal, who has 52 colonies in first-class condition, and doing well. Mr. O'Neal is a close reader of the BEE JOURNAL, and is well posted, but having a store and a farm to look after, he is not able to give bee-keeping much attention.

At Wirt, Dr. C. C. Firth has 66 colonies in several styles of hives, from the log-gum and box-hive to the Langstroth. The Doctor is experimenting considerably, but I think that he will finally decide in favor of the Langstroth hive with the Heddon case. He has a good location, and could do well if he gave it the time it requires, but by what I could learn he has a very large practice, and keeps bees more for pleasure and recreation than for profit.

At Madison I first visited Mr. H. C. White, who has 60 colonies, and is the inventor of a hive and several improvements in the bee-keepers' supplies. Mr. W. has done much good in building up the bee-business in that part of the State. Andrew Augustin has 35 colonies of very fine bees, but he is so busy with other business that he can keep but a few colonies.

I next stopped at Mr. John Crawford's near Pleasant, Switzerland county. Mr. C. has 45 colonies of bees. He is very enthusiastic, well posted, and quite a scientific bee-keeper. It is hardly necessary to say that he is successful, for such a person does not know the meaning of the word "failure." He makes bee-keeping his business, and usually keeps 100 colonies. Mrs. C. helps in the apiary, and makes a good hand, too, and is fond of the work.

T. A. Spencer has 35 colonies, but he has too much other business to give the bees the attention necessary to make it very profitable.

Robert Scott has 200 colonies at Moorefield, and is said to be very successful.

John Farrell has 53 colonies, and has plenty of enthusiasm to make it a success, but he does not read bee-literature.

J. C. Smith, who has 20 colonies, is a beginner, but he is a very enthusiastic bee-keeper.

Charles Norris at Vevey, has 80 colonies. He has had 20 years' experience as a bee-keeper, and makes it pay well for the time he devotes to it.

Wm. Falkner has 60 colonies. He has given many years to the study of the bee, and he is very successful. He has had some experience with foul brood—and thinks fire the safest treatment.

Thomas Tait, of Sugan, has 30 colonies. He is also a beginner, and is intelligent and enthusiastic.

John Anderson has 100 colonies, and has had moderately good success.

At Brooksburg I found several bee-keepers on a small scale, but none that are giving it the attention necessary to success. It is a good location for some good bee-keeper, as there are but few bees in the neighborhood.

After a ten days' trip I returned home well paid for my time and the money spent. I have made several visits to bee-keepers, and, in fact, hardly a year passes that I do not devote a few days to visiting bee-keepers; and in every case I have been well paid. I believe that if more of the bee-keepers would visit their neighboring bee-keepers, and spend a day with them, they would find it both pleasant and profitable.

Urmeyville, ⊙ Ind.

For the American Bee Journal.

Bee-Diarrhea and Sugar Syrup.

R. F. HOLTERMANN.

For some time I have noticed with interest the animated discussion upon the above subject, and I must confess that I do not believe in the pollen theory. I have known of bee-diarrhea being produced in a colony with sugar syrup as follows:

When I was first keeping bees, in spring, if on a windy, cold day the sun was likely to shine brightly at times, I confined bees in their hives, as one of the most extensive apiarists in Canada recommends, and also others, this confinement produced in a few hours, diarrhea, and I found on the following day that the bees were debilitated, and I imagined that more injury resulted to the colony than if the entrance had been left open one bee-width. I decided that the diarrhea resulted from the excitement through confinement, and their digestion was impaired—a result often found amongst animals, and even the highest type of the animal kingdom, particularly if the nervous system is deranged. Might the pollen grain in the watery fecal discharge not be the result of impaired digestion caused by unfavorable surroundings, fermented stores, and aggravated by a predisposition to debility in the bee, and not the discharge owing to the pollen?

I am well aware that bees will winter generally better upon first-class sugar syrup, but I attribute this, first, to the fact that natural stores are often gathered from questionable sources; and second, natural stores often consist of clover, basswood, thistle, buckwheat, and many other honeys, all in one colony; these honeys are of different qualities, and one has greater powers of heating, etc., than another, and as bees change from one honey to another, it causes a certain amount of undue excitement, lowering the physical powers of the animal to resist disease. We should be very cautious to pronounce either one way or another; no doubt there is much to be learned, and in order to progress we must be willing to learn, and not imagine that we know it all.

Brantford, Canada.

Prairie Farmer.

Hints to Beginners—Swarming.

MRS. L. HARRISON.

Whether the owners of few or many bees, all apiarists need good, clean, movable-frame hives in readiness for the reception of swarms. Many valuable colonies yearly "emigrate," while their owners are getting ready to hive them. Some bee-keepers, on the spur of the moment, put them into nail kegs, or salt barrels, where they are of little or no value. If placed in old hives, with combs infested with larvæ of the bee-moth, and foul from diarrhea, the bees may seek more agreeable quarters, and when they leave, may not cluster again, in which case no amount of bell-ringing will stop them, for scouts that have been sent out to find a home have returned, and will conduct them directly to it. Sometimes a swarm will remain in a hive over night, and if the morning sun shines very hot upon it, leave for other quarters without clustering. Hives must be free from bad odors, and have plenty of ventilation.

Where swarms are expected, the location of the future colonies must be chosen, and the stands arranged for them; this is very important. If the hive leans to one side, or is lower at the back than at the front, all sorts of mishaps may be expected, such as the building of brood and surplus combs cross-wise, so that they can be lifted out. Some bee-keepers make a hard place for the hive to stand on, or spread on quantities of sawdust to keep down weeds and grass. If the foundation is built of brick, with two bricks high at the back of the hive, and only one at the front, moisture will run off, and the dead bees and debris can be readily carried out. Let everything be firm, so that there will be no rocking in a storm. Have an alighting-board, resting on the front edge of the brick, so as to join on to the bottom of the hive, thus forming an easy entrance. This is quite important, for time means honey to the bees, so that if one heavily-laden falls exhausted, it is not obliged to again take wing, but can crawl up the alighting-board into the hive. When the hive is placed upon the stand, have the frames arranged at regular distances. I have been requested to examine colonies, and when the frames were uncovered, found that in hiving the bees, and carrying them to their stand, the frames had all been shaken over to one side, and not one of them could be removed without regular transferring. The frames should be covered with muslin, enameled cloth, or a board, so that no bees can crawl up. These things should be attended to before the hive is ready for a swarm.

When a colony has clustered, if it is on a limb of a tree of little value, cut it off and carry to the hive; shake the branch gently at first, and when a few bees have entered the hive, more can be jarred off. If they are shaken off violently at first, they may take wing again. When it is not desirable to cut off a branch, the bees can be shaken into a hiving basket or large dish-pan and carried to the hive. When a swarm is very large and rich in wax, sometimes large clusters fall to the ground, in which case, it is better to carry the hive to them; as soon as the bees are in, replace upon its stand, lest when the scouts return, they lead them to a home of their own choosing. Some let the hive stand until evening before replacing; this is poor policy, as bees sometimes go to the fields as soon as hived, and take their bearings to the new place, and the next day will return there, and not finding their hive, vent their spite on any one coming within reach. In very hot weather, take care that the hive is cool when bees are put into it, and that the sun does not shine directly upon it until the colony is firmly established in its new quarters.

Peoria,⊙ Ills.

For the American Bee Journal.

Preparing Bees for Winter, etc.

E. P. CHURCHILL.

Who ever thought of bees driving any kind of stock from their pasture? My bees are within 5 feet of the gate to the pasture, and I have no fears. In the first place, sheep would feed so close that there would be nothing for the bees, and sheep also have the very best protection from bees. It is sheer ugliness to say that bees trouble stock or man while away from the hive. I, too, do approve fully of Mr. Heddon's plan.

I could not live, it seems to me, without bees, if for no other use than to fertilize my fruits, as I grow them quite largely, and I well know that the bees are a great benefit to them. I never had so good a set of strawberries as now; and the bees just swarmed on the blossoms, as the weather was such this spring that they could. Bees never did so well here as they are doing this season. If I had 500 colonies I think there would be enough for them to do, as they cannot work fast enough.

I had 9 colonies packed in chaff-hives, with mostly sugar syrup stores in 5 and 7 frames, according to the strength of the colony, which were all strong except one which died, being the only one of the 9. I spread a thick woolen cloth on the frames, or on the rack, ½ of an inch above the frames. The cloth was well gummed by the bees through the summer, and over this I spread sheets of newspaper, and packed large, coarse bags of leaves and pine-needles so as to nearly fill the hive. As I expected to go to the South in January, I decided to pack the hives in a warm stable. I set them in the northwest part on 3 inches of hay. I then packed 6 inches of hay back of the first row of hives, and placed slanting boards over the entrances, and put one row of hives in front of the first. I put slanting boards over the entrances of all and packed 4 feet of hay over the hives, and the same amount in front. I darkened all the windows, so that it was perfectly dark.

This was done about Jan. 5, and they were taken out on April 20 in the the very best condition, except the one that was dead with 25 pounds of feed. I think that they would have been all right if they had been left there for two weeks longer, but as I was in Florida where I could not tell how cold it was here, I had them removed, and now they are extra strong, as I have kept them from swarming.

I have found that every time I use considerable covering inside the hive, the bees do the best. I know that some differ, but I find in my case a way of my own. I want my hives, if wintering out-doors, to be where snow will drift over them, then I slant a board in front, and over this tack a coarse bag and draw it around the upper sides of the hive and tack it to the same; then the longer the snow remains over the hives the better. I do not want any shovelling of snow there, but let it come naturally and slowly. Even walking about hives on the snow is an injury to bees. Give them feed enough, and let them entirely alone. The entrances to my hives were left open 8 inches by ⅜, and this was their ventilator. As to moisture collecting over the bees, I believe that the heat retained by the heavy packing dries out and drives the moisture above; for the cloths and paper always comes out dry, and the leaves or chaff is always damp on the top but dry next to the frames; and does not Nature teach bees that warmth is for their safety? or why do they close every crack and place where air or cold could creep in?

As to frames: How can we get one so well suited to uniform wintering as the sandard Langstroth? for on it the bees can travel or move on one line, right where the feed is, and not break the cluster by being obliged to get their feed all around it, as they are apt to do in a deep frame; and, also, how easy it is to handle in every way. While many are mourning the loss of bees, they may learn a lesson, though expensive, as I did once by winter feeding, when I lost 30 colonies. But our motto is "Onward," and let us fight it out at all events.

North Auburn,♀ Maine.

☞ The Cortland Union Bee-Keepers' Association will hold a basket picnic at the apiary of Mr. Miles Morton, at Groton, N. Y., on Tuesday, Aug. 18, 1885. All bee-keepers, with their families, are cordially invited to be present. W. H. BEACH, *Sec*

SELECTIONS FROM OUR LETTER BOX

Good Season.—20—James McConnell, (123—100). Clay Village,♂ Ky., on June 27, 1885, writes:

During the season of 1884, I increased my colonies, by natural swarming, to 123. What I lost during winter and by spring dwindling, besides uniting some, reduced my number to an even hundred colonies, with which I began the season of 1885. Some were weak, but nearly all were in good condition. They are all now storing surplus, but casting very few swarms. I have had only 9 from 100 colonies, and 2 of those were second swarms, though I follow Mr. Heddon's plan of hiving. We have had a good season so far, and it is showering to-day, which will continue the season some longer.

Report.—R. R. Stokesberry, Clinton, ♀ Ind., on July 1, 1885, writes:

During the last winter I lost 46 colonies out of 58; those that are left are doing unusually well. The mortality among bees in this section was about nine-tenths.

Basswood Promises Well.—Harvey Feathers, Royalton,⊙ Wis., writes:

We are having a very cold season here thus far, and the prospects are not very good for a large yield of honey. On June 21 we had a frost, also on the 28th, which injured the honey secretions very much. The winter here was very disastrous to bees; fully 50 per cent. of them died. I lost 40 per cent. of mine. I have 125 colonies left. They have only just commenced to swarm. I have hived 14 swarms. They are working splendidly on Alsike clover, which proves to be the best honey-producing plant we can raise here. Basswood promises an abundant yield of bloom. The trees are very full of buds, which probably will not bloom in this locality before July 25. So I am expecting, if the weather is favorable, a large yield of honey from that source.

Cyprians, Syrians, etc.—Geo. W. Thompson, Grand Junction,⊙ Iowa, on June 27, 1885, says:

I commenced the season of 1884 with 4 weak colonies in 8-frame Langstroth hives, I increased to 8 colonies, and obtained 240 pounds of comb honey. Last fall I bought 6 colonies in box-hives, making 14 colonies, which I wintered safely. I sold one colony in the spring, and my present number is 17. Will some one please say whether 8-Langstroth frames are enough for a Cyprian colony? About a year ago Prof. Cook seemed to think very favorably of the Syrian bees; I would like to know whether he still thinks as highly of them.

Queen-Bee from Mt. Lebanon.—Gust. Murhard, Portland,∽○ Oreg., on June 13, 1885, writes thus:

It cannot be but a matter of great public interest in queen-shipping to know that I have to-day received a Mt. Lebanon queen-bee safely, with one-third of her workers alive, direct from Asia, via Alexandria, Trieste, Bremen and New York, without any recruiting on the way. The queen came as far as New York by mail, and thence by express. She arrived one day behind the mail, by some delay in the express offices, reaching her destination just as lively as if just put up. I have here to mention also that no one should trifle with other people's property neither at the post-office nor in the express office, for what might appear to them harmless sport, as the shaking of a box with bees to hear the bees buzzing, might prove great injury to the owner. Some other person had cut a piece of the cover off the box nearly large enough for the bees to escape. That person perhaps never dreamed of it, that if the queen-bee had escaped, twelve dollars with expenses would be lost; nor that if all the workers had escaped and the queen-bee had been left by herself, she would have had to die for want of food, as she is not able to uncap sealed honey. The post-office officials and express office agents cannot be careful enough in the selection of their employes, and they should first instruct them not to let their youthful and playful curiosity trifle with other people's property.

Late and Cold Spring.—T. S. Hall, Kirby's Creek,♂ Ala., on June 25, 1885, writes:

The honey-flow has been light so far this season, on account of too much rainy weather. The poplar failed to bloom. Bees have swarmed but little, and late. We have had the latest and coldest spring for years. The linden is just now in bloom, and it is two weeks late. The death rate here among bees was heavy, fully one-third of them being dead in this county.

Bees in Good Condition.—A. J. & E. Hatfield, South Bend,♂ Ind., on June 1, 1885, says:

Our bees are working finely on the red and white clover, and where both kinds are growing together there are more bees on the red than on the white. Our bees were never in finer condition for the honey-harvest than at present. The linden will commence blooming in a few days. It is very promising now, and if the weather only will be favorable, we shall expect an abundant yield.

Bees Crawling out of the Hives to Die.—Geo. W. Melville, Durango,♀ Colo., writes:

Since my letter was written on page 346, I have discovered that around Canon City, Colo., the bee-men have had the same trouble, off and on, for some years. Their method of treating this trouble is something after the following: Upon discovering that bees are dying they close them in the hives and feed syrup for a week or ten days, allowing the bees to take a flight after sundown each day; after this period has expired the bees seem to be safe, and go forward as if nothing had troubled them. Our theory here is that during April (or the last week in April), the bees gathered this poisonous honey, and then the month of May being cold and rainy, they were confined nearly the whole month, consequently they fed on this honey and died on account of it We think that if the weather in May had been so that the bees could have worked right along, they would have escaped this poison. What do the readers of the Bee Journal think of our theory? Will it work if the same trouble comes again?

Variations in the Honey-Seasons.—T. M. Anderson, Waxahachie,♂ Tex., on June 25, 1885, writes thus:

While in the creek bottom, a few days ago, I found a colony of bees which had located on some vines about 7 feet from the ground; they had built comb, gathered honey, and were rearing brood, thus suspended in "mid-air." Is not this a rare occurrence? My brother and I have 123 colonies of bees. in Langstroth hives, and in good condition, but they are not gathering much honey this season. This is the "off" year in this section. There is a good crop of horse-mint (the main honey-plant here), but it does not seem to secrete much honey this year. Experience and observation has taught me that bees only do well every other year in the same locality in Texas, no matter how favorable things may seem during the "off" year. Will some experienced bee-keeper explain this, and state whether his bees have ever done real well for two years in succession in the same locality? Mr. J. W. Eckman, of Richmond, Texas, writes me that his bees are doing splendidly, but they did not do much last year, while Mr. Tadlock's bees, at Luling, a distance of 150 miles farther west, did well. In 1883 Mr. Eckman's bees did well, while Mr. Tadlock's had to be fed.

White Clover Bloom.—R. G. Hogue, Loydsville,○+ Ohio, on June 25, 1885, writes:

Will white clover bloom this year, from the seed? Our dry weather, last fall, killed most of the white clover. It has come up very thickly, and the question is, will it bloom this season? Bees are not doing any good now, as there is nothing for them to work on. I think that damage suit in Wisconsin is a "little far-fetched." If that man would sue Nature for producing those pesky flies that bother the sheep by tickling their noses, and cause them to die six months after with "grub in the head," he would be getting nearer the right thing; but that would not be hurting his neighbor.

[As white clover is an annual, of course it should bloom every year.—Ed.]

Cold Winter, etc.—A. C. Sanborn, Ono,+○ Wis., on June 15, 1885, writes:

In the fall of 1884 I had 101 colonies, but now I have only 41; many of these are weak, and, in fact, all are backward. The early part of the spring was unfavorable, till about May 10, but since that time there has been a good chance for the bees. The past winter was very severe here, the mercury having frozen many times. I wintered most of my bees in an out-door cellar built for that purpose. Twenty colonies were put into a neighbor's cellar, but about ¾ of these perished. This cellar, I think, was a little too cold, and the disturbance of a house-cellar has a bad tendency. White clover is now in bloom, but the basswood is the most reliable here.

Bees Doing Well.—J. H. Andre, Lockwood,♀ N. Y., on June 26, 1885, says:

I think that my bees are doing well; some colonies have stored from 15 to 25 pounds of surplus honey, and cast a good swarm besides. Some make a mistake in not putting on surplus boxes early, as the colony will cast one swarm nearly as early, and a larger one, and it also has a tendency to stop after-swarms, if they are put on early.

Bees and their Alleged Depredations.—John Dunn, Tooele,+○ Utah, on June 20, 1885, writes as follows:

I have taken great interest in reading the articles on the defense-fund organization. I think that it is just the thing in which every enterprising bee-keeper should be interested, especially if they are situated as we are in this place; for some say that the bees have brought the codling moth, and that they also injure the fruit blossoms. One lady told me that there had not been any grapes on some of her vines for the past four years, because the bees had eaten the blossoms all off of the vines. I asked her if she knew anything about bees. She replied that her father had kept them, and that she could attend to them now, only they were so destructive. "Now, madam," I said, "did your father or did you ever know bees to bite anything?" She had to answer "no!" I also had a narrow escape from a suit last fall. The owners of the horse that my bees stung to death wanted to enter suit, but one of them knew that I had warned him not to tie any of his horses too near my hives, or I could not vouch for any accident that might happen with them and the bees. I am in for fair play in all things, and the bees should have protection as long as they attend to their legitimate duties. They do not try to enter suit for the bees they kill. I know that I lost a good colony with that horse affair, and I know that if Mr. Freeborn's bees did drive the sheep out of the pasture there were many of them killed at the rout, and they were as dear to him as the other's sheep. But then, we are all apt to put the blame on some one if we lose anything. I have not yet obtained much surplus honey, but I have increased my apiary to 32 colonies by natural swarming, and swarming is not yet over. We have had some cold, wet storms that have kept the bees at home.

The National Bee-Keepers' Union.

CONSTITUTION.

ARTICLE I.—This organization shall be known as the "National Bee-Keepers' Union," and shall meet annually, or as often as necessity may require.

ARTICLE II.—Its object shall be to protect the interests of bee-keepers, and to defend their rights.

ARTICLE III.—The officers of this Union shall consist of a President, five Vice-Presidents, and a General Manager (who shall also be the Secretary and Treasurer), whose duties shall be those usually performed by such officers. They shall be elected by ballot, and hold their several offices for one year or until their successors are elected and installed; blank ballots for this purpose to be mailed to every member by the General Manager.

ARTICLE IV.—The officers shall constitute an Advisory Board, which shall determine what action shall be taken by this Union, upon the application of any bee-keepers for defense, and cause such extra assessments to be made upon all the members as may become necessary for their defense.

ARTICLE V.—Any person may become a member by paying to the General Manager an Entrance Fee of ONE DOLLAR to the Defense Fund, and an annual fee of 25 cents, for which he shall receive a printed receipt making him a member of this Union, entitled to all its rights and benefits. The annual fee shall be due on the first day of July in each year, and MUST be paid within 30 days in order to retain membership in this Union.

ARTICLE VI.—Donations of any amount may be made at any time to the Defense Fund, in addition to the entrance and membership fees and the regular assessments made upon the members by the Advisory Board.

ARTICLE VII.—The Defense Fund shall be used for no other purpose than to defend and protect bee-keepers in their rights, after such cases are approved by the Advisory Board, and shall only be subjected to Drafts regularly made in writing by the Advisory Board.

ARTICLE VIII.—The annual fees paid by the members shall become a general fund, from which shall be paid the legitimate expenses of this Union, such as printing, postage, clerk-hire, etc.

ARTICLE IX.—Meetings of this Union shall be held at such times and places as shall be designated by the Advisory Board, or upon the written requisition of ten members.

ARTICLE X.—This constitution may be amended by a majority vote of all the members at any time.

WEEKLY EDITION
OF THE
AMERICAN

ESTABLISHED IN 1861
OLDEST BEE PAPER IN AMERICA

BEE JOURNAL
PUBLISHED BY
THOMAS G. NEWMAN & SON,
PROPRIETORS,
923 & 925 WEST MADISON ST., CHICAGO, ILL.
Weekly, $2 a year; Monthly, 50 cents.

ALFRED H. NEWMAN,
BUSINESS MANAGER.

Special Notices.

Thos. G. Newman & Son will publish the AMERICAN BEE JOURNAL hereafter. The editorial department will be conducted, as heretofore, by Thomas G. Newman, and the business department by Alfred H. Newman. The firm will (as before the division, 5 years ago to-day), carry on the business of publishing the BEE JOURNAL, books and pamphlets, and keep for sale the usual assortment of bee-keepers' supplies.

◆

☞ If your wrapper-label reads JULY 85, please remember that your subscription runs out with this month. Renew at once, so as not to lose any numbers.

◆

☞ **Back Numbers.**—We can supply a few more of the back numbers to new subscribers. If any want them, they must be sent for soon, before they are all gone.

◆

☞ For two subscribers for the Weekly BEE JOURNAL (or 8 for the Monthly) for one year, we will present a Pocket Dictionary, and send it by mail, postpaid.

◆

To Correspondents.—It would save us much trouble, if all would be particular to give their P. O. address and name, when writing to this office. We have several letters (some inclosing money) that have no name; many others having no Post-Office, County or State. Also, if you live near one post-office and get your mail at another, be sure to give the address we have on our list.

Local Convention Directory.

1885. *Time and place of Meeting.*

July 15.—Central Illinois, at Bloomington, Ills.
Wm. B. Lawrence, Sec.

July 18.—Marshall Co., at Marshalltown, Iowa.
J. W. Sanders, Sec.

July 25.—Union, at Stewart, Iowa.
M. E. Darby, Sec., Dexter, Iowa.

Dec. 8—10.—Michigan State, at Detroit, Mich.
H. D. Cutting, Sec., Clinton, Mich.

☞ In order to have this table complete, Secretaries are requested to forward full particulars of time and place of future meetings.—ED.

◆

Honey is good food and good medicine. Its regular use will ward off doctors' bills.

◆

☞ **Sample Copies** of the BEE JOURNAL will be sent FREE upon application. Any one intending to get up a club can have sample copies sent to the persons they desire to interview by sending the names to this office.

◆

☞ We want one number each of the BEE JOURNAL of August, 1866—February, 1867. Any one having them to spare will please send a Postal Card. We will pay 50 cents for one copy of each of the two numbers.

◆

☞ **Preserve your papers** for reference If you have not got a Binder we will mail you one for 75 cents, or you can have one FREE if you will send us 3 new yearly subscriptions for the BEE JOURNAL.

◆

☞ Our rates for two or more copies of the book, "Bees and Honey," may be found on the Book List on the second page of this paper. Also wholesale rates on all books where they are purchased "to sell again."

◆

☞ To create Honey Markets in every village, town and city, wide-awake honey producers should get the Leaflets "Why Eat Honey" (only 50 cents per 100), or else the pamphlets on "Honey as Food and Medicine," and scatter them plentifully, and the result will be a DEMAND for all of their crops at remunerative prices. "Honey as Food and Medicine" are sold at the following prices:

Single copy, 5 cts.; per doz., **40** cts.; per hundred, **$2.50.** Five hundred will be sent postpaid for **$10.00;** or **1,000** for **$15,00.** On orders of **100** or more, we will print, if desired, on the cover-page, "Presented by," etc. (giving the name and address of the bee-keeper who scatters them).

To give away a copy of "Honey as Food and Medicine" to every one who buys a package of honey, will sell almost any quantity of it.

COMB FOUNDATION!

REDUCTION IN PRICE.

Until further notice, we will furnish Comb Foundation at **5 cents per pound less** than the prices quoted in our Catalogues. This is caused by the decline in the price of beeswax.

CHAS. DADANT & SON, Hamilton, Ill.
THOS. G. NEWMAN & SON, Chicago, Ill.

New and Enlarged Edition
OF
BEES and HONEY,
OR THE
Management of an Apiary for Pleasure and Profit; by
THOMAS G. NEWMAN.
Editor of the Weekly Bee Journal.

It contains 220 profusely illustrated pages, is "fully up with the times" in all the improvements and inventions in this rapidly developing pursuit, and presents the apiarist with everything that can aid in the successful management of the Honey-Bee, and at the same time produce the most honey in its best and most attractive condition.

PRICE—Bound in cloth, $1.00; in paper covers, 75 cents, postpaid.

☞ **A Liberal Discount to Dealers, by the Dozen or Hundred.**

☞ The Monthly BEE JOURNAL for a year and the bound book, "Bees and Honey," will be sent for $1.25.

THOS. G. NEWMAN & SON,
923 & 925 West Madison St., CHICAGO, ILL.

LEARN SHORT-HAND AND TELEGRAPHY BY MAIL

and take paying positions.

Instruction thorough and progress rapid.

☞ Send for Circular.

Brown's School of Shorthand & Telegraphy,
WM. H. BROWN, Principal, New Haven, Conn.

☞ *Situations secured for pupils when competent.*
26A3t

Dadant's Foundation Factory, wholesale and retail. See Advertisement in another column

---

DR. FOOTE'S
HAND-BOOK OF HEALTH,
HINTS AND READY RECIPES,

is the title of a very valuable book that gives a great amount of information, of the Utmost Importance to Everybody, concerning their daily habits of Eating, Drinking, Dressing, Sleeping Bathing, Working, etc.

It Costs only TWENTY-FIVE CENTS and contains **28** pages, **and is sent by mail, post-paid, on receipt of price.** This is just the Book that every family should have.

IT TELLS ABOUT

What to Eat,
How to Eat it,
Things to Do,
Things to Avoid,
Perils of Summer,
How to Breathe,
Overheating Houses,
Ventilation,
Influence of Plants,
Occupation for Invalids,
Superfluous Hair,
Restoring the Drowned,
Preventing Near-Sightedness,
Parasites of the Skin,
Bathing—Best way,
Lungs & Lung Diseases,
How to Avoid them,
Clothing—what to Wear,
How much to Wear,
Contagious Diseases,
How to Avoid them,
Exercise,
Care of Teeth,
After-Dinner Naps,
Headache, cause & cure,
Malarial Affections,
Croup—to Prevent.

IT TELLS HOW TO CURE

Black Eyes, Boils, Burns, Chilblains, Cold Feet, Corns, Coughs, Cholera, Diarrhœa, Diphtheria, Dysentery, Dandruff, Dyspepsia, Ear Ache, Felons Fetid Feet, Freckles, Headache, Hiccough, Hives Hoarseness, Itching, Inflamed Breasts, Ivy Poisoning, Moles, Pimples, Piles, Rheumatism, Ringworm, Snoring, Stammering, Sore Eyes, Sore Mouth, Sore Nipples, Sore Throat, Sun-stroke, Stings and Insect Bites, Sweating Feet, Toothache, Ulcers, Warts. Whooping Cough, Worms in Children.

It will Save Doctor Bills!

Price only **25** Cents. Sent by Mail, post-paid,

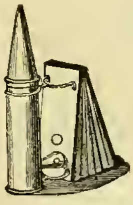
THOS. G. NEWMAN & SON,
923 & 925 West Madison Street, CHICAGO, ILL.

LOS ANGELES.
HOMES IN SOUTHERN CALIFORNIA.

"Stern winter smiles on that auspicious clime,
The fields are florid with unfading prime;
From the bleak pole no winds inclement blow,
Mould the round hail or flake the fleecy snow;
But from the breezy deep the bless'd inhale,
The fragrant murmurs of the western gale."
—Homer.

FULL information concerning the garden spot of the world, beautiful LOS ANGELES, THE LIVELIEST AND MOST PROSPEROUS SECTION OF THE PACIFIC COAST, furnished by the Los Angeles **Weekly Mirror** a mammoth **72** column PAPER, the best weekly in Californa SEND FOR IT. Single copy, three two-cent stamps; six months, **$1**; one year, **$2.**

Address THE TIMES-MIRROR CO.,
25A13t Los Angeles, Calif.



Bee-keepers' Supplies,

Standard Langstroth,

Quinby Standing-Frame,

And all other kinds of **Hives,**

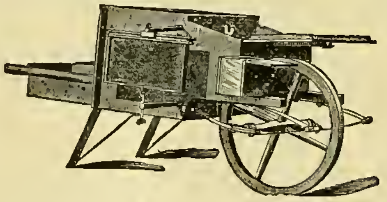
MADE TO ORDER,

Quinby Smoker a specialty.

I shall supply anything you need in the Apiary
Send for Illustrated Price List.

W. E. CLARK, successor to L. C. Root,
7A1y ORISKANY, Oneida County, N. Y.

SYSTEMATIC AND CONVENIENT.



DAVIS' PATENT HONEY CARRIAGE,
REVOLVING COMB-HANGER,
Tool Box and Recording Desk Combined.

Price, complete, only........... $18.00.

THOS. G. NEWMAN & SON,
923 & 925 West Madison St., CHICAGO, ILL.

$200,000 *in presents given away.* Send us 5 cents postage, and by mail you will get *free* a package of goods of large value, that will start you in work that will at once bring you in money faster than anything else in America. All about the $200,000 in presents with each box. Agents wanted everywhere, of either sex, of all ages, for all the time, or spare time only, to work for us at their own homes. Fortunes for all workers absolutely assured. Don't delay. H. HALLETT & Co.
51A1y Portland, Maine.

Cheap Sale of 2-frame Nuclei

2 FRAME Nuclei with Queen in Simplicity frames for $2.00; 2-frame Nuclei without Queen, $1.75. These are Hybrids, Italians and Blacks; I will let the Blacks go at $1.75 with Queen included. Every purchaser is entitled to ONE DOZEN of Peter Henderson's choice selected **BULBS** of Hyacinths and Tulips, all to be shipped in light boxes. Send money in registered letter. Satisfaction guaranteed or money refunded.

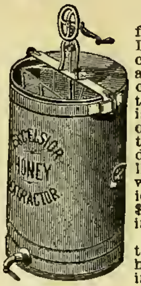
F. HOLTKE & CO., Carlstadt, Bergen Co. N. J.
27Dtf

THE BRITISH BEE JOURNAL
AND BEE-KEEPER'S ADVISER.

The BRITISH BEE JOURNAL is published SEMI-MONTHLY, at Seven Shillings per annum, and contains the best practical information for the time being, showing what to do, and when and how to do it.

The British Bee Journal and our Weekly for $3.50; with our Monthly, $2.00 a year.

EXCELSIOR
HONEY EXTRACTORS



In answer to frequent inquiries for Extractors carrying 3 and 4 Langstroth frames, I have concluded to adopt these two new sizes. The 3 frame basket is in a can of the same size and style as the 2 frame. The 4 frame basket is in the larger can, with the cone or metal standard for the basket to revolve upon, leaving room underneath the basket for 75 or 80 lbs. of honey. It will be complete, with covers, and in every way identical, except in size, with the $16.00 Extractor, 13x20, which is intended for any size of frame.

Excepting with the $8.00 Extractors, all the different styles have strainers over the canal leading to the honey gate, and movable sides in the Comb Baskets. The $8.00 and $10.00 Extractors have no covers.

For 2 American frames,	13x13	inches	.........$8 00
For 2 Langstroth "	10x18	"	.... 8 00
For 3 " "	10x18	"	.........10 00
For 4 " "	10x18	"	.........14 00
For 2 frames of any size,	13x20	"	.........12 00
For 3 " "	13x20	'	.........12 00
For 4 " "	13x20	"	.........16 00

THOS. G. NEWMAN & SON,
923 & 925 West Madison Street, CHICAGO, ILL.

Re-Written and Enlarged! Third Edition of the
BEE-KEEPERS' HANDY BOOK

300 pages and nearly **100** fine illustrations. Price by mail, nicely bound in cloth, **$1.50** per copy. Book and tested Queen of any race, by mail, $2.50. Book and sample Drone and Queen Trap, by mail, $2.00. Our Queens cannot be excelled for beauty, purity, mild disposition, honey-gathering and wintering qualities. All my Queens are reared at the "Api. bee-farm." Send for prospectus and price list.

22A16t **HENRY ALLEY,** Wenham, Mass.

SEND POSTAL for Circulars of **BEES, QUEENS, COMB FOUNDATION,** etc., etc. Address,
G. H. KNICKERBOCKER, Pine Plains, N. Y.
23Dtf

1885.—QUEENS—1885.
ALBINO AND ITALIAN QUEENS,

producing workers to the BEST for purity, docility and industry. Write for Circular. Also have DOLLAR Queens.

22D4t **H. P. DEAHL, Berryville, Va.**

My 17th Annual Price-List of Italian, Cyprian and Holy-Land Bees Queens and Nuclei colonies (a specialty): also Supplies—will be sent to all who send their names and addresses. **H. H. BROWN,**
17Dtf Light Street, Columbia County, Pa.

Send for "OUR HOME FRIEND,"
An 8-page, 32-column Semi-Monthly.

IT IS just the paper you need, as it contains an **Agricultural, Household, Young Folks, Temperance, Religious** and **Miscellaneous** department. Only **50** cts. a year, and will be sent **3** months ON TRIAL to the readers of the BEE JOURNAL for only **10** cents. General and local agents wanted. Address,

"OUR HOME FRIEND,"
26A6t Loudonville, Ohio.

W. Z. HUTCHINSON,
Rogersville, Genesee Co., Mich.,

Is now making a specialty of rearing **FINE ITALIAN QUEENS.** All Queens reared from the purest and best of mothers, and the cells built in full colonies. No Queens sent out that would not be used in the home yard. Single Queen, $1.00; six for $5.00; twelve or more, 75c. each. Tested Queens, $2.00 each. We can furnish White Poplar **SECTIONS.** Make Money Orders payable at Flint. 16Atf

---

"PRIZE QUEENS!"

ITALIAN QUEENS, tested, warranted, and fertilized, for sale at usual prices. Also Nuclei colonies, 2 frames each. Send for Circular. Dollar Queens ready to ship on one week's notice.

27D6t **E. L. BRIGGS,** Wilton Junction, Iowa.

WEEKLY EDITION
OF THE
AMERICAN
ESTABLISHED IN 1861
OLDEST BEE PAPER IN AMERICA
BEE JOURNAL

THOMAS G. NEWMAN,
EDITOR.

Vol. XXI. July 15, 1885. No. 28.

APICULTURAL NEWS ITEMS.

EDITORIAL AND SELECTED.

Life is a burden—bear it ;
Life is a duty—dare it ;
Life is a thorn-crown—wear it ;
Though it break your heart in twain,
Though the burden crush you down,
Close your lips and hide the pain,
First the cross, and then—the crown.

A Good Honey Crop is generally reported, so far. We have received a few complaints, but the preponderance is in favor of a large yield.

Do not forget the National Bee-Keepers' Union. Send the fees ($1.25), and a printed blank will be sent to you by return mail, to fill up with your vote for permanent officers.

The California Bee-Keepers are again attacked. An exchange states the case in this manner :

> "The Fresno fruit-growers are going directly to work to crush bee-culture. A complaint has been filed in the Superior Court of San Diego County, charging a person living 30 miles distant, with keeping hundreds of colonies of bees, willfully and maliciously to eat up and destroy the fruits of the labor of citizens living in that vicinity. The prayer of the plaintiff is that he may have judgment and decree of the Court that the keeping of said bees is a nuisance and that it be abated, and that he may recover from defendant, as damages for injury done, the sum of $1,000."

It seems as if the bee-interests are being attacked from all quarters. Where is the *sane* man who says we have no need of an organization to protect our rights ?

We shall publish the names of members of the National Bee-Keepers' Association next week. Let every one who has the interest of the pursuit at heart, become a member *at once*. Before laying this paper away, let us hear from you. The only way to meet ignorant and selfish *attacks* is by facing the enemy—meeting force by *superior force*—trusting in the right, but "keeping our powder dry." We want no half-hearted laggards in the army, but the vigorous, stout-hearted, patriotic, undaunted and daring are welcome ! If we can raise a column of patriots sufficiently strong to present a good front, we shall *dare* the envious ones to "bring on their law-suits," and by "an imposing array" and "unbroken front," gain a lasting and permanent victory !

Rendering Beeswax.—In answer to many inquiries for the best method of rendering beeswax, we give the following from a correspondent. He uses a wax extractor, and the wax coming from it is allowed to drip into a large pan, and is again warmed over and then set aside to cool. Just as soon as it has cooled sufficiently to form a crust over the top, break a hole in this crust and pour out the warm wax into dishes or pans, greased a little with lard to keep from sticking. Pour gently, and if any pollen or colored matter makes its appearance, it is not sufficiently cool. All sediment or foreign substance will rise to the top or settle to the bottom of the wax. In cooling, this is held in the crust, and the clear, pure wax is poured off. A good wax-extractor is indispensable, and pays for itself very soon, by the additional quantity of wax secured.

Fight between Bees and Hornets.—A correspondent in the Baltimore *Herald* gives the following particulars of such a fight, which he says he witnessed :

> "The most remarkable and exciting scene I ever witnessed, was a fight between a swarm of bees and a colony of hornets. Hornets build their nests out of a material not unlike paper, which is molded into concentric layers. The nests often attain the size of a man's head, and are occupied by about 200 hornets. One day a swarm of bees took flight from a bee-hive of my father's, and made its way through a peach orchard, for a piece of underbrush about 200 yards from the hive. They alighted on an apparently deserted nest of hornets. It took about two seconds for the 200 hornets to come out of their den and attack the invaders. The battle was hot and furious. The air was filled with a prolonged buzz as the combatants flew at each other and tried to use their stings. A great many on each side were killed, but the hornets carried the day."

More Lying about Bee-Keepers.—The Chicago *Daily News* of last Thursday repeats another of those bare-faced lies about a Michigan bee-keeper, who, it says, feeds glucose to his bees in order to have them fill the combs with it, and sell it for honey. The falsity of the article is at once shown by the fact that honey can now be bought as cheaply as glucose, and people are not liable to adulterate unless they can *make* something by such dishonest practices. The daily press of the Country are now, more than ever before, craving for sensational matter. They pay largely for such, no matter whether there is a grain of truth to build on or not ! Anything for a *sensation !*

The *News* is clever at arguing and chuckles over the following :

> "The Michigan apiarist has opened a field so broad that it seems almost boundless. The possibilities suggested by his successful experiment are bewildering. If by straining glucose through bees a man can get honey, why may he not strain chalk and water through them and get choice milk or cream, or banquet them on soap-grease and get prime Orange county butter ? Why may he not feed them on logwood and cheap alcohol and obtain a first-class brand of port wine ? or, by substituting some other ingredient for the logwood, get a 'superior article' of any other convivial beverage ?"

The National Bee-Keepers' Union has been formed, for the purpose of defending the rights and protecting the interests of the bee-keepers of America. Every person interested in the pursuit should **at once** send for a copy of the Constitution, voting blank, etc., and become a member. Address "National Bee-Keepers' Union," 925 West Madison street, Chicago, Ill.

Organize for Defense.—Mr. A. G. Hill, editor of the *Bee-Keepers' Guide*, remarks as follows about the necessity of bee-keepers organizing in defense of their rights :

> "'Necessity is the Mother of Invention.' Whether our bees have a right to free pasturage, or whether from a different standpoint bee-keepers ought to be compelled to keep their bees entirely on their own premises, and should they not do so, be liable to damages, real or imaginary, for trespass, is a matter which sooner or later will require settlement by law. 'A stitch in time saves nine,' is a very plain adage and will apply, perhaps, in a way, to this matter. We cannot afford to have a decision in court brought against us—that is positive. When it comes to legal proceedings, bee-keepers will all be on one side—the side of right and truth as demonstrated by the very nature of bees to go and come whithersoever they will. Considerable money is being used up by bee-keepers to carry on petty suits against them, whereas even a decision in our favor in a common court amounts to no decisive victory to us as a body, for a verdict rendered here in favor of bees might elsewhere be given against them. If bee-keepers would unite on some plan of action in this matter, and carry it out, much individual expense would be saved, and good to all would be achieved. It has been suggested that a good plan would be for each bee-keeper in the United States to put in one dollar toward making a defense, which would require the value of 50 farms like the one in question, to oppose. The importance of the decision would justify a very extensive defense or investigation. This method would make necessary an organization made up by a prompt enlistment of members."

Relative to the Article on page 387, concerning the correspondence by Mr. Allen Pringle in our Canadian cotemporary, we notice in the last issue of that paper the following from Mr. Pringle :

> "After reading Mr. Newman's explanation, I feel that I ought in justice to him, as well as myself, to add a few more words on the subject. The editorial note in the AMERICAN BEE JOURNAL of Dec. 24, 1884, to which Mr. Newman refers, and in which he says be noted the birth of the Kansas weekly, must have escaped my attention, as I had no knowledge of the Kansas weekly when I corrected the proof of my article in February or March ; *and it had no existence at all when the article was written.*"

Immediately following this the editor remarks "that the article on 'Apiculture' was duly credited to the *Popular Science Monthly* on page 93," and then adds : "We were not at fault as the AMERICAN BEE JOURNAL has, through error, we believe, decided."

To this we will briefly say that the article was published in the Canadian paper in two numbers, neither one of which was credited either at the beginning or end, *as is usual in such cases!* The item on page 93, being entirely disconnected from the article in question, does not *really* give credit for it, because it may so easily be overlooked by any one seeing the article itself, and hence wrong conclusions be arrived at, as was the case by the *Kansas Bee-Keeper*, the editor of which remarks in substance as follows, last week :

> "Taking it for granted that the article in question was *original* with the Canadian paper, we saw no reason why Mr. P. should omit to mention the *Kansas Bee-Keeper* in connection with the American weeklies, *for its advertisement as a weekly* was then in the very paper in which the article appeared as original."

With these explanations the subject is dismissed from our columns. The Canadian paper is young and inexperienced, and evidently *intended* to credit the article. All should be magnanimous, and "take the will for the deed." Now, "let us have peace !"

QUERIES

WITH

REPLIES by Prominent Apiarists.

Brood in the Sections.

Query, No. 84.—What is the cause of bees filling the sections with brood, and drone brood at that, and what is the remedy for it? I put on one case of sections some time ago, thinking that the bees were crowded for room, and perhaps would be forced to swarm when there was no bloom to sustain swarms, and I find the above result. Would you destroy the drone-comb, or cut off the heads of the drones in the cells? Please answer in the Query Department.—S. D.

W. Z. Hutchinson says: "There are different causes for bees putting brood in sections. I cut the trouble short by using queen-excluding honey boards."

Prof. A. J. Cook answers: "They are over-crowded, I should say. If the comb is white and nice, cut off the heads of the drones; otherwise, melt up the comb for wax."

Dr. C. C. Miller replies: "Cause: Too free communication with surplus room. Remedy: Heddon's skeleton honey-board, or zinc or wooden perforated queen-excluder. If drone-brood is sliced off, it will be more economical, but the comb will be a little dark."

G. W. Demaree says: "If you put on the section-cases at a time when the brood department is crowded, and but little surplus honey is being gathered, the queen is most likely to deposit eggs in the sections. I would shave off the heads of the drones, and extract the honey from the sections after being filled. Combs after having brood reared in them, are unfit for table use."

James Heddon answers: "Perhaps you did not get on your sections till the bees had crowded the queen below, with honey. If your bees are pure Italians, they are more apt to crowd the queen below, after the sections are put on. If the combs below were all worker, and you gave your bees a chance to dictate the size of the cells above, of course they would build drone-comb there, and the queen would make haste to deposit eggs therein, as the only place to rear any drones, something that unreasoning nature impels them to do; but reasoning man knows that it is not for the best. As it is likely the comb is already soiled, I would advise taking away the comb, and replacing it with a full-sized piece of worker foundation."

J. E. Pond, Jr., replies: "The cause is very simple. The heat naturally rises to the sections, and the queen in her desire to rear drones, goes into the sections for that purpose. The remedy is to use worker foundation only in sections, and allow a small amount of drone-comb to remain in the brood-chamber. The queen is simply fulfilling one of the laws of her nature, when she lays eggs in drone-cells; and if she cannot find such in the brood-chamber, she will go into the sections. In my own experience, I have never found any worker brood in sections, save in one or two instances, where the queen had been crowded out of the brood-chamber, owing to the sections not being placed on the hives as early as they should have been."

Dr. G. L. Tinker says: "Queens go by freaks sometimes (at least some Italian queens are prone to), and lay eggs everywhere in the hive, in the drone-comb of the sections as well as in the worker-cells of the brood-combs. The remedy for queens laying in the sections is a queen-excluder. A bee-space above the brood-frames is no hindrance to the queen entering the sections. I have often found queens in supers when no eggs were laid. If there are but few drone (we seldom find any worker), larvæ found in the sections pick them out; if many, extract the honey and melt up the comb."

G. M. Doolittle remarks: "The querist seems the more surprised that the brood in his sections was drone-brood, while if I should find any but drone-brood in sections, I should be as surprised as he; for I have yet to see worker-brood in sections, unless the colony was a new swarm and commenced house-keeping up-stairs. The cause of drone-brood in sections is, the restriction of drone-comb below, together with a light flow of honey; and the remedy is, filling the sections with comb foundation of the worker size. If the brood is found before it is sealed over, the sections can be taken from the hive and left in a cool place for 3 or 4 days, until the brood dies, when, if placed on the hive again, the bees will fix all as good as ever; if sealed over, destroy it, as the comb will be so colored by the brood, that the honey would have to be sold for second or third quality."

Fertilizing Queens.

Query, No. 85.—Which is the best plan of fertilizing queens in confinement?—J. C.

Prof. A. J. Cook says: "So far as I know, there is no practical method."

Dr. C. C. Miller replies: "I do not believe that any successful plan has yet been discovered."

James Heddon says: "I give it up."

Dadant & Son answer: "There is no such thing as fertilization in confinement. Those who claim to have succeeded are either deceiving others or have deceived themselves by careless experiments."

J. E. Pond, Jr., remarks: "There is no *best* plan of fertilization in confinement; in fact, there is no plan for such fertilization that is worthy of the name. Nature for various reasons has provided that the queen should meet the drone in the air outside of the hive, and there is no practical method yet devised to improve on nature."

G. M. Doolittle answers: "After trying faithfully all the plans ever given, only to fail, I feel that I am excusable for saying that I doubt any one ever having a queen fertilized in confinement. They may think so, but for all that the chances are that the queen was fertilized as all queens are when not known by the experimenter."

Dr. G. L. Tinker replies: "I think it unadvisable to fertilize queens in confinement, and hence have given this matter no attention. The ultimate result of such practice, if it could be accomplished, would be to injure the wing-power of the workers."

G. W. Demaree says: "There is no *best* plan, because no reliable plan to mate queens in confinement has been discovered. Since we can control the drones by excluding drone combs, and by using the perforated zinc, the 'confinement plan' has lost most of its desirability."

Drones and Drone-Comb.

Query, No. 86.—Will bees swarm if drones and drone-comb are kept out of the hive?—W. H. H.

James Heddon answers: "Yes."

W. Z. Hutchinson says: "Yes."

Dr. C. C. Miller replies: "I think that they will; but absence of drones and drone-comb is, to some extent, preventive."

Prof. A. J. Cook remarks: "Most assuredly, if they are pressed for room. The mere fact of such absence has little or no restraining effect."

G. M. Doolittle replies: "I have yet to see the hive containing a populous colony during June and July, that had not a few cells of drone-comb in it; and I do not believe that it can be kept out, for worker-comb will be changed to drone-comb if it cannot be gotten otherwise."

G. W. Demaree answers: "In view of my experience, I answer yes. Every year I have a few colonies of hybrids, and these are deprived of all drone-cells, and are not allowed to rear any drones; they swarm as promptly as other bees."

Dr. G. L. Tinker replies: "Yes; because the absence of all drone-comb in a hive does not prevent the rearing of drones in worker-cells, and vast quantities of them, too, when the bees want them. It would be interesting to see a bee-keeper keep the drones out of a few dozen colonies when they take a notion to rear them."

Convention Notices.

☞ The Cortland Union Bee-Keepers' Association will hold a basket picnic at the apiary of Mr. Miles Morton, at Groton, N. Y., on Tuesday, Aug. 18, 1885. All bee-keepers, with their families, are cordially invited to be present. W. H. Beach, *Sec*

☞ The Union Bee-Keepers' Association of Western Iowa will meet in Stuart, Iowa, on July 25, 1885, at 10 a. m.

M. E. Darby, *Sec.*

CORRESPONDENCE.

Explanatory.—The figures BEFORE the names indicate the number of years that the person has kept bees. Those AFTER, show the number of colonies the writer had in the previous spring and fall, or fall and spring, as the time of the year may require.

This mark ⊙ indicates that the apiarist is located near the centre of the State named: ♁ north of the centre; ♀ south; O→ east; ←O west; and this ♂ northeast; ↖O northwest; O↘ southeast; and ♀ southwest of the centre of the State mentioned.

For the American Bee Journal.

The Contraction Method.

JAMES HEDDON.

During the past three years I have been carefully testing a hive-contraction system, and I have found it of great value, as regards both summer and winter success. It has become a permanent system in my apiaries when running for comb honey, and now, after testing it for three seasons, I feel prepared to speak of what I know.

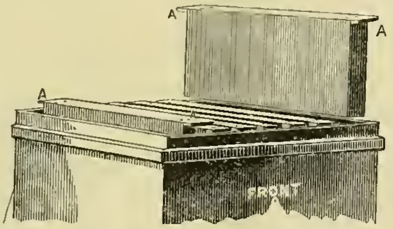
I hive all swarms, whether first or second swarms, upon five Langstroth frames of foundation, filling up the rest of the space in an 8-frame hive, with 2 contractors or "dummies," A, A, as shown in the illustration. I find that the queen uses these five combs to that extent that I get as much brood in them as in any 7 combs where the whole 8 are used. The 5 combs become nearly 5 solid sheets of brood, and where they are reversible, quite all brood. Certain it is that these contractors in no way tend to increase the amount of honey stored, but to a great extent they tend to increase the amount stored as surplus, and decrease the quantity stored as winter stores.

This contraction also keeps much bee-bread out of the hive, leaving it in the field, which is by far the best and most economical reservoir for it, in this locality. With this treatment, a prime swarm commences work in the cases at once; I usually place one case on the hive when hiving a swarm. A second swarm usually commences in the surplus cases in 2 or 3 days after being hived.

In autumn, when the honey harvest is over, the little brood-chamber contains but little honey and pollen (almost none at all if the bees are Germans). I now have the honey in the supers that, with the 8-frame system, would have been in the hive, and perhaps in the market, and I am now ready to feed the colony sugar syrup for winter. When fed, the bees are in a condition where all their stores are accessible, and to winter with absolute certainty if they are kept warm enough. Whether the brood-chambers are almost honeyless, or partially stored, depends upon the nature and duration of the honey-flow, and the blood of the bees. Most bee-keepers are aware of the fact that Italians are more prone to load the brood-chamber, regardless of the surplus department, both early and late in the season, than are the German bees.

While the system is so nearly perfected that with any bees I bring nearly all of the colonies out at the close of the season so as to take one-half or more of their winter and spring stores through the feeder, I have it complete as far as Germans and most hybrid colonies are concerned. I am now at work with assurance of perfecting the system, so as to bring out all brood-chambers, with any bees, in a perfect starvation condition, our honey all gone into the market, and our colonies all ready to receive the winter food prepared by the bee-masters, as their whole winter and spring stores. I believe that sugar syrup is better than honey as spring stores, till the weather is quite warm, and till the bees can fly daily.

I keep the bees on these 5 combs, after placing them on the summer stands, until the spreading of the queen and the advance of the sun north of the equator calls for more room, when I remove the contractors, replacing 3 combs which are put in the positions occupied by the contractors, or among the combs of brood, spreading them, according to the weather and force of the colony. When this colony swarms, I hive its swarm on 5 combs, as above described, and then on the twentieth day after swarming, I go to the old hive and find, as a rule, a young fertile queen, eggs in the centre combs, and three or more combs with considerable honey and no brood, which I remove, replacing them with the contractors. This old colony is soon in the supers, having a 5-comb brood-chamber filled solid with brood.



A A shows the two Contractors—one nearly in position, and the other just ready to go down into the hive.

I have had colonies, after casting 3 swarms, at work in the supers within 5 days after contracting. I think that the advantages of this contracting system will be seen; or it may be called an enlarging system; that is, enlarging the brood-chamber for about 6 weeks during the time that the queen is not only the most prolific, but when such prolificness gives us bees to become field-workers, just when we most need them. I think that it will also be seen, too, with what advantage reversible frames may be added to this system. I make the contractors by making a wide frame just the same width all around, and just the size of the standard Langstroth brood-frame. It is no division-board, as it has all the same bee-spaces as has the brood-frames, and thus manipulates very easily. When the frame is made, I nail a $\frac{1}{8}$-inch board upon each side, and in the middle I place a little cubic block, a little smaller than the width of the frame; by nailing each side to this block, they will be just a little concave.

"Through all the summer days," the contractors are kept at the same distance from the sides of the hive and adjacent combs, as the combs are kept from each other; but in winter I move them back close to the sides of the hive, thus aiding as non-conductors, and giving a little more wintering room; these two points are non-essentials however.

Some of the contractors I fill with chaff, some with sawdust, and I also have 300 made of solid wood, but these are only $\frac{5}{8}$ of an inch thick, and each pair replaces but 2 combs, leaving 6 instead of 5. When 6 are used the spaces of the honey-board exactly break joints with the spaces below, as with 8 combs; but with 5 combs I move the honey-board side-wise as much as it will go and still rest solid on the hive, and then I leave the break-joint feature of the honey-board perfect as before. It was by the use of this 5-comb system that I first got my best test of the great value of the break-joint feature of the honey-board. I never knew how much more queens and combs would work up through when they ought not to, till I placed a lot of honey-boards on some contracted hives, and in such a manner that the slots corresponded vertically instead of breaking joints with each other.

My first thought was to have these contractors, broad-frames filled with sections, but experience taught me, first, that we did not need any more surplus room with a Langstroth hive and complete "tiering-up" system; second, it adds complication to have storing in sections going on in the brood-chamber; and third, the honey stored there is not fit for market, at least none that I have ever seen comes up to my standard. If it was only started there, and finished in a better place, it might do, but as such a system complicates labor still more, why should we use the place when we have all the room we want without it, and in a far better and handier position? I have not been troubled with the queen entering the sections, when I used the honey-board in proper position, though it is not queen-excluding, the slots being $\frac{3}{8}$ of an inch or double bee-passage.

I notice that others have been contemporary with me in working out the advantages of contracting, but so far as I have read, I have not as yet seen it systematized as a summer and winter management. I have here endeavored to so place it before my fellow-bee-keepers, and I do it with the full conviction that we can and will lessen the detail labor of manipulations, and keep all the advantages of this valuable system.

Dowagiac, ♀ Mich.

Indiana Farmer.

Prevention of After-Swarms.

F. L. DOUGHERTY.

Preparatory to casting the first swarm, a colony will build from 5 to 20 queen-cells. With 2 or 3 of these finished and capped over, they are ready to go, and if the weather be favorable, out they come. Almost every bee at home, when they start, leaves with the swarm, even to the very youngest not quite able to fly; these latter, of course, return to the hive in a few moments. Bees returning from the fields soon discover the loss of bees and queen, but make no attempt to follow. At this time the combs are very full of young hatching bees, and it sometimes is surprising to notice how many will come out in the space of a few hours.

Queen-cells started and left unfinished at the leaving of the swarm, are continued and finished, and others also may be started after the leaving of the swarm. Under ordinary circumstances, the first young queen that hatches out, if left to "her own sweet will," would visit all other queen-cells in the hive, tear open each cell and sting its occupant; but should the weather continue favorable, the colony having grown quite strong again, they are not satisfied, so they protect these cells, from her royal highness. Being a "her," one may easily judge her humor at a disputed authority in her own home; she leaves with many followers, and her sisters may do likewise, from the same cause, until 5 or 6 after-swarms may be cast by the one colony.

Now we may take advantage of this instinct and prevent all after-swarms by removing these queen-cells on the same day, or the day before this first young queen makes her appearance. If queen-cells be removed on the same or a few days after the first swarm leaves, there being plenty of eggs and young larvæ, the bees will build more cells at once, thereby defeating the object for which we remove the cells. The coming of after-swarms can always be foretold by the "piping" of the young queen, which once heard will never be forgotten. It is rather an angry, discordant "squawk," and is easily heard by placing the ear close to the side of the brood-chamber of a hive.

If at the time of swarming the swarm's hive be placed on the old stand, and the old hive moved to a new location, all of the working bees will be drawn to the new colony, thus depleting the old hive to such an extent that it is hardly likely to cast a second swarm. Where honey is the main object, and increase not desirable, the old hive may be moved only a few inches, and a little to the rear, then after 8 or 9 days, removed to a new location. The bees which have hatched out and taken location from the old hive, will enter the new hive when the old one is taken away, and being of the same colony, with honey coming in, they will take up their new quarters without molestation. The latter plan is a good one where bees are in box-hives, or in such condition that they cannot readily be examined. After-swarms in general are of little account as honey-gatherers, they being so few in numbers. When they exist it is better to put 2 or 3 into one hive; the bees will soon settle the question, or the queens themselves, as to which is to be which.

Indianapolis, ⊙ Ind.

Read at the Maine Convention.

Mistakes About Bee-Keeping.

MRS. L. M. CROCKETT.

If all bee-keepers realized what a privilege it is to meet with others of the same avocation, we should have a general assembling together when the Maine State Association holds its yearly meeting. But all have not become enthusiastic in bee-culture, and it takes time to work a reform among bee-keepers as well as any other class of individuals, yet we are glad that there are enough interested in the work to make it profitable to be here, and to welcome all as friends and helpers who are friendly to the cause of apiculture. That we make mistakes in our occupation as well as in anything else, no one will deny; and it is one object of this meeting to devise means to rectify those mistakes, some of which I will mention. It is a mistake to take the bees' good summer honey and leave them to get new or go without. Our bees should be looked after as closely as any of our farm stock, and when the profit comes, remember the honey-flow is substantially at an end, take away what may prove injurious, and supply what we know to be good.

It is a mistake not to give our bees good ventilation in winter. A crust over the snow either from sun or rain, may prove fatal if left but a few days. It is a mistake when we think that success year after year is not the best proof of ability. It is a mistake for any one to keep to themselves useful knowledge about bees, when by letting it be known it would benefit others in the same occupation. It is a mistake when we think that our own State does not afford just as good authority as any we can get, when we have scores of bee-keepers with practical knowledge far superior to any we can glean from those who have not experienced our cold winters, or varying honey seasons; who can tell us what to do better than those who have lived and taken care of bees for years in our midst? We can all read the same books on apiculture, the same bee-papers filled with useful knowledge from the pens of people who have spent the best parts of their lives among the bees; but what we want and need is the experience of people in our own State, with like surroundings as ourselves.

It is a mistake to think that it is nothing but recreation to keep bees at a profit. We shall never accomplish much in any direction without hard work. It is as true that "eternal vigilance" is the price of success in bee-keeping as in any other industry, and it is a bad mistake when a person thinks that his bees will take care of themselves, and him too. It is a mistake for bee-keepers not to attend bee-associations when they come within limits; to stay at home thinking that they will not get pay for their time, or that they will get it all in the papers; when the fact is, there are many useful ideas expressed, many suggestions made and experiences related, that never find their way into print.

It is a mistake when we think that we know it all. Both ancient and profane history give us accounts of the honey-bee, but not until within the last century has it received the attention which it so richly deserves; and see what progress has been made. Do you think we shall stop here? No doubt at the close of the next century posterity will look back from a stand-point as far in advance of us as we are in advance of the last century. Let us all try and aid the cause that we love so well, remembering that whatever we do is worthy of our best endeavor.

For the American Bee Journal.

Getting Bees into the Boxes.

22—J. B. MASON, (80).

Having kept bees for the past 22 years, commencing with the box-hive, then changing to the American movable-frame hive, then to the National, Kidder, Adair, and lastly to the Langstroth, where I halted; and having found considerable trouble many times in getting the bees to go into the boxes, and that, too, when there was plenty of honey coming in, and the hive full of bees, some 6 years ago I accidentally found a plan that entirely obviated this trouble. Having never seen it, as I remember of, in any of the bee-papers, I will here give the manner in which I discovered the plan, and which will also fully explain the method:

In the year 1879 a man came to my apiary and wanted to purchase a colony of bees. I showed him around, and out of 40 colonies only one suited him, and that one was then working in the boxes. I named a price for it, but he thought that it was too high. I then named another price with the understanding that I was to remove the case, which was then ⅔ or more filled; this offer he accepted. At this time I had 20 or more colonies that ought to have been in the boxes, but were holding back. I then decided to use the sections containing new honey to get the other colonies to work by putting 2 or 3 of them upon each hive. On two of the sections I found say a cupful of bees, so I took these two sections and put them into a case over a colony that I thought strong enough to go into the boxes. Before night I found the case crowded with bees, and well at work drawing out the starters.

I thought to myself, "now I have it;" so I at once distributed the remainder of the sections in cases over strong colonies, but while they had plenty of new honey, they had no bees in them. Upon examining them the next day, I found no bees in the cases, and the honey was removed below. This was a hard one on my new plan; but finally this thought occurred to me, "Is it not these young wax-workers that are secreting wax that do the business?" I at once went to the hive of the bees that I had got to work in sections, and removed some of the sections with the clusters attached to them, and put these into the other hives, and the bees went into the cases at once, and I have never seen it fail where there were sufficient bees to work in the boxes.

Mechanic Falls, ♀ Maine.

Prairie Farmer.

Swarming, Introducing Queens, etc.

MRS. L. HARRISON.

White clover is not as abundant as it often is, there being not more than one-third of a crop, in comparison with former years, in this locality. It yields little nectar, as cool, wet weather has prevailed since it began blooming, and hot nights are requisite for its secretion in this important plant. When the forenoon is hot, in the afternoon bees are busy, but the flow is not continuous. With a constant yield of honey, the comb is very white, and almost imperceptible when eaten.

Bees are now swarming, the very best colonies issuing first. Italians come forth generally without preparation. To-day, on opening a hive from which a very large swarm issued yesterday, no trace of queen-cells could be discerned. I always run my apiary on the plan of pulling down and building up, i. e., take frames of brood to build up colonies, from those where increase would be undesirable, and thus prevent their swarming. I save all the queen-cells I can from the best colonies. If nuclei have been formed long enough for them to build cells of their own, they will accept those given them. If these cells are older they will hatch out first, and destroy all others. When the young queens are laying, the swarms can be built up strong. Some apiarists introduce fertile queens to old colonies, as soon as they have swarmed, claiming that it prevents after-swarms, and keeps them strong.

When bees are storing honey rapidly, it is best not to disturb them. The young queens can be kept in nuclei, and when honey fails, and the time of the colony is not valuable, the new queens may supplant undesirable ones. When a colony has been queenless for some time, it is apt to abound in laying workers, improperly called "fertile workers." These will invariably destroy all introduced queens. It is difficult to kill them, as they look like other workers. The eggs of these laying workers produce drones only, and may be discovered at a glance, the worker-cells being too small for their large bodies, the cells for them are built up higher, and are also much more scattered than worker brood. If the comb of such a colony is exchanged for that of a vigorous one, removing brood and bees, but being careful not to take the queen along, the introduced young bees will not be satisfied with these laying workers, and will destroy them and rear a queen of their own. Sometimes these laying workers will allow the rearing of a young queen, and destroy her on her return from her "wedding tour." I have found that the best way to manage these pests, is to virtually make a new colony as described. The addition of one or two frames of brood will not do; better make a complete exchange of combs.

A queen that does not mate because of imperfect wings, or other deformity, will lay, and her eggs produce drones only. Such a queen can be readily discovered and destroyed, a fertile one being introduced.

Some persons fail in introducing queens, from not bearing in mind that the first requisite to success is that there is no other queen, or cell from which one is expected, in the hives. A queen not more than an hour or so old, may be allowed quietly to run into the top of a hive where there are sealed cells, and be received, the bees not knowing but she came from their own cells; but when the queens are older, or have been in the hands of the operator, acquiring the scent of the person, they will be destroyed. If there are no eggs or young larvæ in a hive, it is positive that there is no laying queen (there might be a young one); if eggs and larvæ are given to such a colony, if queenless, cells will be started within 48 hours. If a queen is to be introduced, the comb containing the cells might be removed, and the bees, finding all sources for a queen gone, will accept the one offered. Cages which can be pressed into the comb, covering brood and honey, are much used for introducing queens. They are covered with wire gauze, through which the bees can feed the queen, cross their attennæ, and make her acquaintance. She can be liberated by cutting a hole through the comb back of the cage, or letting the bees gnaw her out. Mailing-cages are furnished with tin points for fastening them upon the comb. Small cages the size of an old-fashioned tin pepper-box cover, are made of a rim of tin with a wire gauze top, and can be pressed into the comb, to cover a queen, or to protect a queen-cell ready to hatch.

Many persons having black bees are desirous of Italianizing them. It is often difficult to find a black queen, as these bees do not cling to the comb like the Italians, but gather in clusters on the bottom of it; falling off they creep up under the operator's clothing, and are a pest generally. I have taken out the frames of a black colony several times, and careful observation failed to find the queen. Once I brushed all the bees off the comb, and placed them in a clean hive; then removed the hive from its former stand the length of a sheet spread upon the ground, placing the hive with the comb upon its place, then drove the bees back to it with smoke; when the bees were apparently all back, I had not found the queen. On stretching out the sheet, a few bees were seen clustered together, and poking among them I discovered her.

When I wish to remove a black queen, I brush off all the bees from the combs, place them in an empty hive, and put in front of it a bee entrance-guard. This is a piece of zinc having perforations large enough for worker-bees, but not for drones and queens. I remove the old hive and put this prepared one in its place. The queen to be introduced should be caged on one of the combs. The bees in the old hive are then poured down in front of it, and may be allowed to enter it at leisure. If they refuse to do this, because their queen is with them, drive them with smoke, and when the workers are in, the drones and queen will be found on the outside, and may be destroyed. In most cases, had the Italian queen been placed upon the comb, she would have been accepted, after this driving operation, yet it is safer to cage her. At the end of 48 hours, if the bees have not released her, let her out; if kept in longer, they may build queen-cells and refuse to accept her. Some apiarists let a queen run into the top of a colony after dark, claiming it to be a safe plan; if an Italian queen is accepted all right; in 90 days the blacks will all have disappeared, and the hive will be full of golden-banded Italians.

When honey is coming in freely, bees are on their good behavior, and accept strange queens more readily than when it is scarce. Once during an abundance of apple bloom, I brushed the bees from the combs, putting them into an empty hive, and, seeing the black queen, destroyed her. I then sprinkled the bees, together with the Italian queen, with sweetened water; the wet bees all entered the hive together, and prospered. The driving and sprinkling gave the bees something else to think about, than disputing over the acceptance of a strange queen.

Peoria,⊙ Ills.

For the American Bee Journal

Honey-Bees as Fertilizers.

G. L. TINKER, M. D.

It is a matter of surprise that so much ignorance prevails in regard to the usefulness of the honey-bee to the farmer and other land-owners, in fertilizing the flowers of the white clover, and increasing the seed produced, rendering possible our thickly-set white-clover pastures which afford the richest and most relished forage for all kinds of stock. Take from the country the honey-bee, and in a few years our fine white clover pastures would be no more.

During the fall of 1884, a great drouth prevailed throughout Ohio, and nearly all the white clover was killed, and during the past spring there was scarcely a leaf or stem of it to be seen. But the ground was covered with seed, thanks to the diligence of the honey-bee (which is about the only insect that visits the flowers of the clover), and the spring being favorable for the growth of the grasses, there has been an extraordinary setting of the young plants of the white clover, and now sheep and cattle and horses are relishing in the great abundance of it. But it will not bloom till another year, when the bees will again be on hand to fertilize the flowers that the seed may be developed against a possible and similar emergency. There is nothing more certain than that the stock-raiser who strikes at the honey-bee, strikes at his best friend.

New Philadelphia,⟜ Ohio.

Connecticut Farmer.

Queenless Colonies in the Spring.

H. L. JEFFREY.

The active cause of queenlessness is a continued opening of the hive and over-hauling the combs to find out the condition of the bees. The over-hauling of the combs at any time between October and the latter part of May, unless it is warm working weather, puts the bees into a kind of panic, and a natural instinct of the worker bees to protect their queen, makes them cluster around her. The frightening of the rest will frighten her, and the more the workers are frightened, the closer they cluster on the queen and hug her, the greater is the danger of her being smothered, and if not smothered, she is so greatly frightened and over-heated as to make her barren in the future.

The same over-hauling causes the bees to fill themselves with honey more than is needed for subsistence, resulting in an unnatural formation of excrement, and as a bee cannot discharge it unless it can fly, the over-loading of the intestines produces a weakness, and diarrhea is the result.

At each opening of the hive, quite a number of bees fly out never to return, and at each opening the population is continually becoming less, till only a mere handful is left from the once populous colony. And as each opening causes an unnecessary gorging of the bees with stores, be it syrup or honey, instead of only one pound a month being consumed from October till April, they will be forced to use from 2 to 4 pounds in the same time. Careful experiments show that a fair-sized colony, if left alone from Nov. 15 until May, will only consume about 5½ to 6 pounds of stores in that time, while, if disturbed, they use from 12 to 20 pounds, besides in other ways suffering harm. If the hives are where continual passing jars them, it will be likely to do harm, especially if the weather is such as to keep the bees from flying.

The disturbing of the bees also provokes breeding, which, if carried on to any extent, is almost sure to be the cause of destruction, unless the weather should be suitable for brood-rearing; then success is the consequence instead of utter failure.

Although the above are very common causes, there are others that are not under the control of the apiarist, and from which many die, but the above are always the result of smart, self-confident ignorance. Bees in box-hives never are troubled that way; but those in frame-hives are. You connot over-haul the box-hive, as you can the frame-hive.

Washington Depot,⊸ Conn.

For the American Bee Journal.

A Standing-Frame Hive.

J. H. ANDRE.

On page 330 I mentioned a new hive which I intended to give a trial. I find that the description was incorrect, and now I wish to rectify the mistake.

To make the hive, mitre togther a box 16x16, inside measure, by 11½ inches deep, cut a rabbet on the inside, all around, ¾ of an inch down, and ½ of an inch wide for frame-rests; if tins are put in the rabbet needs to be deeper. Groove the hive in the centre at the top on all the sides ⅜ of an inch wide by ½-inch in the side of the hive, and 2 inches down the hive, for a cross to rest in, which should be made of good, stiff timber halved together in the centre. From the lower part of the groove for the cross-rest, run the groove ¼ by ¼ of an inch to the bottom of the hive on all sides for division-boards; this will leave four spaces to hang in frames 7 13-16x7 13-16 inches square. As the frames are an odd size, they are not kept in stock, but can be easily made from strips ¼ of an inch wide, running a part of them over a saw, to cut a groove for the foundation guide. Cut the top-piece of the frames 8¾ inches in length, the side-pieces 10½ inches, and lower pieces 7, and nail them so the frame will be 7x10 inches, inside measure.

Hang in 4 frames in one space, the inside one middling close to the cross, and shove the inner ends close up, with the side of the frame against the side of the cross; this gives a bee-passage between the outer ends of the frames and the hive, and also avoids too much space under the cross-pieces. Now hang in 4 frames in another space with the sides of the frames to the ends of the others, and just far enough from the ends of the other frames to leave a passage for the bees when the frame is well filled with honey; this will leave one-half warm and one-half cold frames. Nail on strips 2 inches wide and ½ an inch thick, 1 inch from the top of the hive, for a cover-rest. They may be from 6 to 8 inches high, and the top made of matched lumber, the grooves being well filled with paint when put together. The bottom is made of matched boards 2 feet long, the ends of the centre pieces being cut down to the tongue of matching before putting them together, 8 or 9 inches in length and one foot wide, for an entrance to the hive.

The cases may be made for 4 rows of sections, 4x4½ inches, outside, by using thin lumber, with the exception of two of the side pieces. Sections that are a little longer than wide, look very much better than square ones.

I have made four of these hives, and I like them for the following reasons: 1. The brood-chamber is in good shape. 2. The bees can get to any part of the hive from the centre; I believe they will winter better in them for that reason. 3. The frames are small, easy to handle, and in building up weak colonies a frame may be gotten nearly all brood or all honey, as required. 4. The frames need no wiring, and a weak colony may be confined on 4 of the frames, and be in a neat, compact shape instead of being strung out in a bad shape, as they are when confined on 2 or 3 Langstroth frames.

Some might want more frames, and perhaps it would be as well to put in 5 in opposite corners of the hive. I would like to have some one try this hive this season, and then report.

Lockwood,♀ N. Y.

British Bee Journal.

The Mental Life of the Bee.

DR. DONHOFF.

There are actions of animals which depend upon acquired ideas. Ideas are retained as with men of collective impressions. The retained ideas appear sharper, and more like mental impressions, than the ideas which are retained by men from mental impressions. If a hive stands among many of similar appearance, the bee returning from the field finds her own hive again. The bees that swarm retain the scent of the queen, that runs about freely in the hive and collect around her. I gave to a magpie, within half an hour, 12 coins and pieces of bread, which she hid in the most different places of the garden and field, and concealed with earth, or with a leaf and earth. Some places I marked by sticking in a bit of wood. On the next following days coins, as well as pieces of bread, were gone.

The swallows, which migrate to Egypt, and sometimes to the neighborhood of the equator, come back again to the place where they were born. A farmer at Dinslaken, not far from Orsoy, has accustomed a nightingale to come into his room and eat at the table where he sits. Last year it returned again for the third time. The animals could not come back again if there was not still, after half a year, present to their minds the picture of the country, which impressed itself upon them on the home journey. The ideas of animals are associated according to the same law of similarity as the ideas of men. The bee, which returns from the field and sees the hives, associates with one of them the picture and position of the hive which was impressed upon it at its first outward flight; it recognizes the identity between its idea and one of the hives which it sees, and thus is it enabled again to find its hive.

On the front of the hive I stuck some blue paper; 14 days after I stuck yellow paper upon it. The bees returning from the field hesitated long before they settled, and at last they flew not to the entrance, but mostly to places of the hive distant from it. The mental idea of the yellow hive, the idea of the blue hive presenting itself again to the consciousness, and the difference of these pictures, were causes of the hesitation.

If a hive is changed to another stand, the bee makes hovering flights by way of finding its bearings. The difference of the picture necessitates these flights for the purpose of noting its bearings. If a colony has swarmed, every bee makes at its first outward flight these bearing-noting hoverings, even if the swarm has been put in the place of the mother-hive. There must consequently have been an idea of the act of swarming retained, which presented itself to the bee's consciousness at its outward flight. But there must be with the higher animals more complicated associations of ideas, which the bees do not possess. If a servant has been accustomed to feed the pigs, they get up when they hear that servant's footsteps, and hasten to the feeding trough. This kind of association appears to me to occur in all mammals and birds.

A colony of bees may be fed every evening, but the bees will never hasten to the feeding-trough when they see their owner coming. If a dog has had a beating, he runs away when he sees the stick taken up. I let bees fly in my room, caught them, and pressed them repeatedly, which is unpleasant to them; for if they are let loose, they run or fly away from it. But I could never notice that a bee flew away when I made with my finger as though I would catch it.

But the thing in which animals are deficient is, as Johann Muller remarks, the faculty of forming conceptions. The bee is incapable of forming the idea of several ideas, of forming generalizations; it cannot form the conception of honey, it cannot, therefore, form a general idea; it cannot form the idea that honey is sweet; it does not apprehend the connection which exists between honey and sweet. Because the essential connection between things escapes animals, because their mind may harbor a world of individual ideas, but they cannot find the stationary pole in the series of phenomena, on that account are they so limited. If one of the higher animals has accidentally done something whereby advantage has been gained, it repeats this. My magpie continually threw about some yellow, blue, and red papers, which I had laid at the bottom of its cage. I several times concealed a bit of meat under the blue paper; when it threw about the blue paper again, it found the meat and ate it up eagerly. After it had found meat under the blue paper several times, and I again laid papers in the cage, it only attended to the blue. Similarly I accustomed it to draw a piece of meat, which hung by a thread under the cage. But to form conclusions from the analysis of conceptions, to deduce actions that would be useful to it, of this it was just as incapable as any other animal. But there do occur acts of animals which do not depend on experience.

In these acts of instinct the bee stands higher than any other animal; it is the proper representative of instinct. Its remarkable household, with its labor, its comb construction—wonderful on account of the skill manifested, more wonderful because of the mathematical problem that is solved in it—have been from of old the admiration of men. I have been close to swallows, and seen them build. I have seen the more remarkable web woven by spiders, but the thing that has charmed me most is the legerdermain-like skill with which a bee takes out a scale of wax from between the abdominal rings, and with which it attaches the particle when duly kneaded. Who has not been touched by the marvelous nature-rule which impels a worker-bee to make way for her queen when she walks over the comb to lay her eggs?

For the American Bee Journal.

The Sheep-and-Bees-Suit.

J. F. LATHAM.

On page 372, a correspondent styles the "sheep-and-bees-suit" a "bugaboo." Why not use the suit more literally in dressing the thing up, and call it "ba-a *et* bug." It does not appear feasible that bee-keepers should display any "sheepishness" in "taking up the glove" in a contest so absurdly ridiculous as the one in question, when, like the bubble swelling from the bowl of the juvenile's pipe, its only support must emanate from blowing, to culminate in—nothing. If a Quiotic display is actually needed to enliven the spirit of the times, why not gratify the thirst for legendic notoriety by donning the basin and target, shouldering the lance, and, mounting Vozinante, go out in true representative attitude? It is quite certain that the laurels won would be quite as mellifluous as those which graced the brow of the famous hero of La Mancha.

Reflection is a sterling educator. Perhaps, if the complainant in this "suit" should "stand back" and think awhile, he might become conscious of what may, eventually, be the effects of results that portend his action against the defendant. If I mistake not, the so-called heathen civilizations countenanced no private claims to the mellifluent productions of nature; accepting them as the spontaneous effusions of the elements, in the popular mode of thinking—the "gift of the gods"—the elemental guardians. Were they, in their teachings right, those students of the open book of nature? Is the verification of such teachings by modern science defective? Or is it a duty, consonant to methods of reasoning on a baseless system, to attempt to right the imaginative wrongs of ages, and establish a criterion that discrimination and jealousy, as sharp as that of modern cultivation, failed to make a point of aggressive contention?

In the height of their civilizations, the ancient Egyptians, the Phœnicians, the Greeks, the Romans, and their less progressive neighbors, gave more or less attention to the apiculture of their times, which was regulated, to a certain degree, by customs and laws. But I feel safe in stating that the exudation of the flowers—"the honey of the air"—was held to be as free, to all who might keep bees to gather it, as the rain from the clouds; in fact, if I rightly construe the teachings of history, the pursuit of bee-keeping was fostered by the ruling dynasties of the times, by allowing the tillers of the soil certain minor privileges consistent with conflicting interests; *i. e.*, no one was allowed to keep bees where they would endanger public travel, or places of resort; or in quantities that would give one husbandman a monopoly of the pasturage. Those simple regulations of the dark ages seem to embody about all that is necessary for a more advanced age.

That bees will prevent herds of any kind from grazing, when the grazing ground is but a moderate distance even, from their hives, my experience does not verify. I have worked at mowing on a piece of ground intervening the hives of my 20 colonies and a piece of buckwheat, when the bloom of the wheat and the air over my head was alive with bees, and no notice was taken of myself or horse by the busy insects during their foraging hours. I have mowed so near the same piece, when it was "roaring with bees," as to cut some of the stalks of grain near the edge, without evidence of danger from angry bees. The piece of grain alluded to was about 40 rods from my apiary. When foraging, aggression of a stinging character is not one of the honey-bee's characteristics. The mind-its-own-business traits, aside the foraging hours of the bee, and those of grazing animals, neutralize their cause for a confliction of interests as to pasturage. Where proper facilities are provided for protection from the heat of the sun, most kinds of stock, and especially sheep, will graze only during the cool hours of the day; while the honey-subsisting bee revels in the sunshine during the hours when the chalice of the flower is replete with nectar—her chosen food—which such conditions are the most favorable in producing.

But why dilate on bottom facts, when, if I am not in error, the agitation culminating in a suit of this kind bears an aspect evincing phases of a different signification than a call for judgment between apistical and Gregorian privileges? It is not simply a matter of mutton and wool *vs.* honey and wax, although bee-keepers are challenged to contest it on that line; neither is it, in a definite sense, a local question to be adjudicated by courts possessing State jurisdiction only; but it is a National question, involving the rights of every individual bee-keeper in the land, whether possessing one or a thousand colonies.

Cumberland, ♀ Maine.

Dixie Farmer.

Natural and Commercial Glucose.

ARNOLD DELFFS.

I hold that organic products, changed into other by the agency of man, are not what they appear to be, *i. e.*, what they are usually called. They are, though greatly resembling certain natural compounds, nevertheless, strictly speaking *sui generis*. Allow me to illustrate. Mix nitric acid with sugar (or various other organic compounds), and the result will be a crystallized acid, considered identical with that found in oxalis acetosella principally; consequently termed oxalis acid. Both are considered identical; science at least says so. But still, there are a few of their respective combinations where the parallel fails, being not the same under any and all circumstances; I hold they are two different substances. Pure natural glucose is the sweet found in fruits, especially grapes (raisins) and figs; it is altogether harmless. But for commercial purposes, it is prepared by mixing starch with water and a little sulphuric acid (oil of vitriol) and boiling it for hours in large earthenware-lined vessels; then neutralizing the still free acid by lime, filtering and evaporating to dryness. As regards chemical test, no injurious matter can be found. Barely—I doubt if any—traces of acid remain, and the resulting salt (sulphate of lime; plaster of Paris) is inert; being insoluble.

Here let me point out two weak arguments—the one made by the advocates of glucose, and other similar artificial compounds; the other by many of its antagonists. As for the former, they do not know, do not want to know, that chemical tests in nine cases out of ten, utterly and completely fail, when applied to injurious organic matter; *i. e.*, analysis is unable to detect its hurtful qualities. Dr. Gall, whilst recommending his "gallized" (sugared and watered) grape juice, applied to chemists to find anything hurtful in his wines; knowing full well that he was talking balderdash. But to the multitude such chat was logical and convincing. On the other hand, you sometimes meet with allies overzealous and consequently inconsiderate. They fire away with pop-guns, whilst repeating rifles are at hand; so, too, in this instance.

Before going any further, another fact must be mentioned. There is a certain dire disease termed diabetes; it consists in this, that the system changes all the starch contained in the patient's food into glucose, or something like it, in lieu of carbolic acid, as it does in normal cases. Medical men affirm that the use of artificial, so-called glucose, often brings on that disease. What could sound more plausible, but that it should act as an exciting cause? Natural genuine glucose is not charged with such injurious consequences; this alone proves that the two are not the same, though chemistry fails to point out any difference. I think the objection I named might be compared to a loaded repeating gun; whilst the charge of the others—that the traces of sulphuric acid or sulphate of lime possibly detected in the artificial product, could produce any perceptible effect whatever—win the noise made by pop-guns. Such allies are weak ones at best.

But let us suppose—for mere argument's sake—that artificial glucose is not injurious, would that justify us to palm off adulterated honey as the genuine article? If you say "yes," you must necessarily contend also that it is right to counterfeit coins, provided it be done so skillfully as to defy detection. The mere saying, "that it is altogether a different thing," amounts to nothing, if you are unable to point out any difference. And who would countenance for a moment such as selling spurious grapes and other relics as genuine articles? Fraud and deception are nothing more nor less than a direct violation of the commandments, "thou shalt not bear false testimony against thy neighbor," and "thou shalt not steal."

Shelbyville,⊙ Tenn.

For the American Bee Journal.

The Season in Kentucky, etc.

JNO. T. CONNLEY.

We are experiencing the hardest season on bees that has been known for many years. The clover bloom was light, and contained but little nectar, besides for more than three weeks of day-time that it was in bloom, the weather was too unfavorable for the bees to do anything; most of the time there was a strong north and east wind, with cold nights; on the morning of July 1, the mercury stood at 48°, making it too cold for bees!

I think that Mr. Doolittle's suggestions are good—that those who keep both sheep and bees give their evidence to Mr. Freeborn as to whether bees are an injury to sheep, or whether or not they interfere with sheep grazing on white clover.

For eight years I have kept both bees and sheep, and every summer I have an average of 140 sheep and lambs, and I often go to the pastures to observe the state of the clover bloom, but I have never known a sheep to get a bee-sting; for by the time the bees are on the clover the sheep are full, and take to the shade. In Kentucky, sheep do their eating at nights and mornings, while the dew is on the grass; especially during June and July, the time of clover bloom.

There has been but little swarming in this county (Gallatin); I have not heard of as many as 25, all told. I have had but 5 from 90 colonies. My apiary is in good condition, and I have enough honey to run the bees; but I will get no surplus this year. I have taken only one barrel of extracted honey, and I will take no more this season. I send $1.25, as I want to be a member of the National Bee-Keepers' Union. I favor anything that will honorably further the interests of our favorite industry.

Napoleon,♂ Ky., July 8, 1885.

For the American Bee Journal.

Father M. Quinby.

J. R. D.

What does the "M" stand for? None of his so-called biographers have yet told us. Capt. J. E. Hetherington, Cherry Valley, N. Y., in a memorial published in a work entitled "Quinby's New Bee-Keeping," fails to show when or where this famous untutored naturalist was born. All we are told is that he was sixty-five years old at his death, and that he was a Quaker.

In the "Introduction" (page 17) of the above work, the remark is made: "Fifty years ago, Mr. Quinby, then a lad of *nineteen*," etc. As the work is dated 1884, this would leave the date of the period in 1834, when Mr. Quinby began bee-keeping. Taking the nineteen from 1834 would leave the year 1815 as the one in which was born the "father of practical bee-culture" in America.

Then again, by the use of subtraction and addition we find that Mr. Quinby should have been 69 instead of 65 years of age at his death. Capt. Hetherington, on page 16 of the work alluded to, says: "Thus, at the age of *sixty-five*, ended the life-work of our counsellor, friend, and public benefactor."

Mr. L. C. Root, Mohawk, N. Y., in his preface, to the edition before me, dated May, 1879, although claiming a close intimacy with Mr. Quinby, fails to furnish anything that is clear on this point.

Can you, Mr. Editor, or any of your able contributors, inform me where I can obtain an instructive and clear biography of one of America's greatest of naturalists?

[We invite Mr. L. C. Root, who is a son-in-law of the late Moses Quinby, to prepare a biography for the BEE JOURNAL, for the satisfaction of the many who delight to honor the memory of that distinguished pioneer of apiculture. We regret to say that we can add nothing to what is contained in that excellent book—"Quinby's New Bee-Keeping."—ED.]

To Correspondents.—It would save us much trouble, if all would be particular to give their P. O. address and name, when writing to this office. We have several letters (some inclosing money) that have no name; many others having no Post-Office, County or State. Also, if you live near one post-office and get your mail at another, be sure to give the address we have on our list.

SELECTIONS FROM OUR LETTER BOX

Good Crop of White Clover.—J. W, Sanders, Le Grand,⊙ Iowa, on July 3, 1885, writes :

Our bees in Central Iowa are just a-booming now, and they are just where they ought to have been about June 1. Swarming and all are about one month late. I never have seen a better show of white clover than now. I rode over several miles of country yesterday, and it looks to me as if there are 500 heads of clover to every bee in the country. Many bees were lost by the hard winter and spring dwindling. From the best I can learn, about one-half of them died.

Moving Bees in the Hot Sun.—W. H. Downs, Stoneville,+o Miss., on June 29, 1885, says :

A few days since I moved 10 colonies of bees, having transferred them successfully, and loaded them on a wagon. I moved them 25 miles and lost 9 colonies out of the 10. The sun was too hot.

Sowing Buckwheat.—G. L. Rankin, Weston,+o Ky., asks the following question :

When is the best time to sow buckwheat for fall honey, or for bees to work on in the fall ?

[It should be sown during this month, and the earlier the better, in order to serve the bees for fall use. Sow broadcast on rich soil ; three pecks to the acre.—Ed.]

Sheep and Gad-Flies.—Dwight Furness, Furnessville,~o Ind., writes :

We have owned a large flock of sheep for years, and with large numbers of bees in this vicinity I can testify that they do not molest the sheep while foraging. The plaintiff in this suit no doubt mistook the troublesome gad-fly, for the bees. (See an account of the same in "Randall's Sheep Husbandry.")

Bees are Busy.—11—R. C. Aikin, (11—21), Shambaugh,♀ Iowa, on July 4, 1885, writes :

Everybody seems taken with the Bee-Keepers' Union ; I am, too, but more so with the increase in bees and honey. I am now getting my first crop of clover honey. Never before has white clover been abundant enough here to yield a surplus. I have already increased my stock from 11 colonies to 21, and I will easily treble if not quadruple it by Sept. 1. One new colony on scales has averaged 1½ pounds per day since June 13. Basswood will begin to open to-day, while clover is yet good. Bees gathered as much to-day as on any day.

The Honey Harvest, etc.—James Heddon, Dowagiac,♀ Mich., on July 6, 1885, says :

The clover harvest is a good one here, and basswood is full, and will open in 4 or 5 days. We are now practicing "modern transferring" with over 50 colonies, and with perfect and uniform success, notwithstanding the cool nights. I would never think of the old method again. Reversible frames are a great blessing, and I could not be induced to use any other. Their advantages are beyond my greatest expectations. Mr. W. G. Fish (on page 406) has given about all the argument or proof against the "pollen theory" that I have seen lately. I never saw a case, nor before heard of one, where bees wintered on natural stores voided nothing after a long confinement, or short one either, for that matter. Is Mr. F. mistaken, or is it possible that some honey is entirely free from nitrogen ? His hives must have been so arranged as to well protect their inmates from the 28° temperature when it lowered to that point. It still remains that diarrhetic excreta is nitrogen—pollen.

Alsike Clover.—A. C. Goff, Syracuse,⊙ N. Y., asks the following :

I send a clover blossom taken from clover that grows about two-thirds as high as red clover, and very fragrant. I find patches of it in a field of red clover. What is the name of it ?

[The clover is Alsike. It is not uncommon for patches to come up in red clover fields, as a little of this seed is sprinkled among the red clover seed in many cases. Yesterday I saw a 10-acre field of this Alsike clover in full bloom, and roaring with bees. It was a good sight, and the man who has it is getting an immense crop of honey.—A. J. Cook.]

Basswood Looks Promising.—Wm. E. Harris, Bay City,o+ Mich., on July 3, 1885, says :

The winter and spring losses in this locality have been fully 75 per cent. Bees are now building up lively on white clover. Basswood bids fair to be a very large yield.

Expecting a Large Yield.—Fayette Lee, Cokato,⊙ Minn., on July 5, 1885, says :

I have 24 new colonies, and my apiary now numbers 114. I shall extract honey to-morrow, for the boxes and upper stories are full. I have taken off some finished sections, and now have 1,200 on the hives, and 800 more to put on. The basswood will be in bloom in one week, and then I will be kept busy. I believe that I have one of the best apiaries in the State, and can show as good a record as any in wintering, for I lost only 6 out of 80 during the past winter and spring. My bees were in the cellar 150 days. I am getting ready for 5,000 pounds of honey this year, as the basswood is full of buds. I have some colonies that have 18 frames to work on, and besides there is a half-pail ful of bees lying out.

Transferring Bees, etc. — N. L. Minor, a deaf-mute bee-keeper of Clarksville,δ Mo., on July 5, 1885, writes :

The Bee Journal has taught me many new methods in bee-culture. There are a great many basswood trees and much clover along the hill about 400 to 500 yards south and about a mile west, north and east of my apiary. My apiary is nearly surrounded by the hill with basswood and red-bud trees. The bees are busy gathering honey from basswood and clover. I have read the discussion about transferring bees from box-hives to new hives, by Rev. O. Clute and Mr. James Heddon. Mr. Clute really has the wrong idea. There is something wrong in his plan of transferring bees. I could easily transfer bees from box-hives to new hives. I will wager five dollars that I can transfer bees at any time from February until fall. I transferred bees from box-hives to new hives last October, and prepared them for winter ; they are now in good condition. Again, I transferred 14 colonies in February and April. I favor Mr. Heddon's plan, "at any time." Some bee-keepers have the idea that it is better to transfer bees from old to new hives during apple bloom. I cannot agree with them. I united 2 or 3 swarms, and they seemed to welcome each other. They did not fight nor quarrel. I extracted the honey from some old colonies, but I got only a little. I united some of them, and then gave the empty combs to new colonies, thus saving them the time to build new combs. I do not think it a good plan to prevent swarming, nor to divide colonies. I have 36 strong colonies in splendid condition. I will be glad to help any fellow-bee-keeper out of trouble. I feel sorry for Mr. Freeborn, of Wisconsin. Let us all try to help him out of his trouble. I hope that we can do it.

Abundance of Bloom, but no Nectar.—Robert Corbett, Manhattan,δ Kans., on July 6, 1885, says :

Up to this date the seasons of 1883 and 1884 were very poor, but the present season has been the most discouraging of the three, owing to the long continued cold and wet during the months of May and June, so much so that the bees killed their drones till late in June, and the wet still continues, with an abundance of bloom and a starvation of bees. Basswood has been in bloom for a week, but there is not much nectar in it. White clover, motherwort, catnip, mustard, blue-vervain and sweet clover, all are in bloom, and are fine to look upon, but there is too much wet. So our prospects are not very promising at present ; but our motto is, "Try, try again."

Plenty of Swarms and Honey.—B. T. Baldwin, Marion,⊙ Ind., on July 7, 1885, writes :

The basswood is in full bloom, and is the most abundant bloom that I have ever seen ; but it is not yielding as much nectar as it has done in other years. The bees have taken the swarming fever the worst that I have ever known, and if all my queens' wings were not clipped, I would have lost nearly every one that swarmed. Five swarms came out a week ago last Sunday. They swarmed 2 or 3 times a day for 4 days, when I broke it up and divided the bees among other good working colonies, and they went to work at once. Six of my colonies have already produced over 100 pounds of extracted honey per colony.

Robber Bees—Transferring.—G. W. Ashby, Valley Station,δ Ky., writes thus :

Can any of the readers of the Bee Journal enlighten me on the following new (to me) case : A swarm of bees came out in due order, clustered, and was hived and put some 25 or 30 feet from the parent hive. All seemed to be working finely late in the evening, in fact too much for so short a time after swarming, and when traced up to see where such a constant stream of bees went and came in such quick succession, it was ascertained that the swarm was robbing the parent colony. It being near night when it was discovered, I closed the entrance to a single bee-space, hoping that they would forget it by the next morning ; but the next day they went at it with renewed vigor ; nor would they cease till the parent colony was carried some distance away and hid in the weeds. I have been keeping bees for nearly 30 years, and I have never had such an occurrence. Again, I must say one word in favor of the modern way of transferring bees, brought about by Mr. Heddon, and seemingly berated by Mr. O. Clute and others. I have practiced it ever since I saw it in the BEE JOURNAL. I transferred some 47 colonies this season, and last season about as many, and I never had such a case as mentioned by Mr. Clute and others. I would transfer no other way. It may be that as Mr. Clute is nearer the Arctic regions than this latitude, it may have something to do with it; though there is not such a great difference.

Bees Doing Well.—Geo. E. Hilton, Fremont,⟜ Mich., on July 7, 1885, writes:

Bees are doing remarkably well considering the cool weather. On Monday, June 29, from 4 colonies I extracted 63, 56, 57 and 46 pounds respectively, and 50, 58, 42 and 46 pounds yesterday, one week later. I have one colony that has stored 100 pounds of comb honey. I attribute their strength to the good double-walled hive which I use, and which protects them from the cold changes in spring.

Making Comb Foundation.—A correspondent asks the following question:

Will Mr. Heddon please tell how to make a dipping-board for making wax sheets for comb foundation? Also the best way to dip them so as to have the sheets all of one thickness?

[I use the Given press, and make sheets L. size. I made a dipping-boiler as long as my L. sheets, i. e., 16¼, with handy room to spare, say 20 inches long. The tank is about 15 inches deep, and 8 inches wide, with a strainer-division, on one side of which the wax runs in, and the other we dip. My dipping-board is made of "clear stuff," carefully smoothed, about ⅝ thick, 16¼ wide, and 20 inches long—pine preferred. I bring both edges, and one end of the board to an edge. Be careful to keep it reasonably sharp, and not strike it against anything. I soak the board in water over night before using. I dip it into the wax, sharp end down, holding the other end. I dip down about 3 inches further than I wish the width of the sheet; and, if dipping for brood foundation, I make a double motion, giving the upper part a double dip. Before these sheets go to the Given press, 3 inches of the thinner edge is cut off, and returned to the boiler. The edges on the board causes the sheets to separate, and without leaving any surplus strip. I have tried revolving boards and other devices, but the one above described works quickly and cleanly, and my sheets are so even that none can tell which is upside or downside of them.—JAS. HEDDON.]

Double-Walled Hives, Bee-Stings, etc.—E. M. Coombs, Memphis,♀ Ind., on July 9, 1885, writes:

The BEE JOURNAL is much improved by the addition of the "Query Department," as the answers by Messrs. Heddon, Doolittle, Miller, Tinker and others are so nearly alike that a novice in bee-keeping can safely rely on their decisions. This is the poorest for the past four years for surplus honey. Last winter I lost 14 colonies out of 22, by starvation with plenty of honey in the hives. I came to the conclusion that packing in double-walled hives was not essential, thus the loss. To those who get stings, I would say, squeeze the skin and get out a drop of blood and water; this will lessen the swelling very much, as I thus take out about ⅞ of the poison. I resort to this method every time that I get stung, and I have done so for 3 or 4 years, and never fail when I get a drop of blood or water from the puncture.

Bees and White Clover.—Elias Fox, Hillsborough,⟜ Wis., on July 8, 1885, says:

I have read the statements in the BEE JOURNAL about the litigation now pending to procure damage done to a flock of sheep by bees, while the latter were harmlessly gathering nature's product from the bloom of white clover, and at the same time fertilizing the flowers. I have also read the suggestions in regard to the organization of a protective association, which I certainly favor. My opinion is, that by the time this man proves that Mr. Freeborn's or any other man's bees did his sheep damage, he will be far short of what he calls for, and he surely ought to be. Malice is a great ruler.

Insurance.—Chas. Follett, Osage,♂ Iowa, makes this motion:

As we are now forming a Protective Union, I would move to make it also an "Insurance Mutual Bee-Keepers' Association," on the assessment plan; that each member be assessed on the number of colonies on hand on the first of June of each year; that each one reports his honey crop in September, in order to take advantage of that knowledge for marketing our crops. I want to hear from all on this suggestion. It can just as well be added to the defense organization, and be all under one management.

[This is a wide field. We were appointed a committee (by the North American Bee-Keepers' Society), 5 years ago, to report on the advisability of forming an Insurance Society for bee-keepers. We formulated a code of by-laws, but fearing it might be too much of an organization, we never dared to report on it. However, as we are now at the society-making work it might be well to DISCUSS it. Then, if it should be deemed desirable to add such a Department to the Bee-Keepers' Union, the Advisory Board can act on the suggestion advisedly.—ED.]

Best Honey Season for 12 Years.—Henry Alley, Wenham,♂ Mass., on July 9, 1885, writes:

Our bees usually cease work about July 1st; it is now July 9th, and they continue to gather honey from white clover, which is kept in bloom by frequent showers. This is the best honey season that we have had for over 12 years.

Bees Benefit Farmers.—C. M. Hollingsworth, Winnebago,♂ Ills., on July 8, 1885, writes:

Let bee-keepers not make the mistake of condemning those who complain of bees as trespassers, on the ground of selfishness. If bees really do more harm than good to the orchards, pasture fields, etc., that they visit, such persons are in the right. But there is abundant evidence that the benefits which bees confer in fertilizing and cross-fertilizing plants far out-weighs any damage they ordinarily do. And it is on this ground that the law ought to sustain, and, I think, will sustain the apiarist; except where bees are so kept as to make them a nuisance in other ways.

Local Convention Directory.

1885. *Time and place of Meeting.*

July 18.—Marshall Co., at Marshalltown, Iowa.
J. W. Sanders, Sec.

July 25.—Union, at Stewart, Iowa.
M. E. Darby, Sec., Dexter, Iowa.

Dec. 8—10.—Michigan State, at Detroit, Mich.
H. D. Cutting, Sec., Clinton, Mich.

☞ In order to have this table complete, Secretaries are requested to forward full particulars of time and place of future meetings.—ED.

Honey and Beeswax Market.

Office of the AMERICAN BEE JOURNAL,
Monday, 10 a. m., July 13, 1885.

The following are the latest quotations for honey and beeswax received up to this hour:

CHICAGO.

HONEY.—Demand is light and receipts are also light. Prices range from 10@15c. for best grades of comb honey, and for extracted, 5@7c.

BEESWAX—22@25c.

R. A. BURNETT, 161 South Water St.

BOSTON.

HONEY.—We quote the following prices: Fancy white comb in 1-lb. sections, 16@18c.; the same in 2-lb. sections, 15@16c; fancy white California 2-lbs., 12@14c. Extracted weak, 6@8c. Sales very slow.

BEESWAX.—32 cts. per lb.

BLAKE & RIPLEY, 57 Chatham Street.

NEW YORK.

HONEY—We quote: Fancy white clover in 1-lb sections, 14@15c; fair to good white clover in 1-lb. sections, 12@13c; fancy white clover in 2-lb. sections, 13@14c; fair to good white clover in 2-lb. sections, 11@12c; fancy buckwheat in 1-lb. sections, 9@10c; fancy buckwheat in 2-lb. sections, 7@8c. Ordinary grades, no sale. Extracted white clover, 7@8c; extracted buckwheat, 6@6½c.

BEESWAX—Prime yellow, 26@29c.

MCCAUL & HILDRETH BROS., 34 Hudson St.

CINCINNATI.

HONEY—There is no change whatever in the market, which has been without life for some time. We have a good class of regular customers who use considerable honey, while outsiders can hardly be induced to purchase. We quote extracted at 4½@8c, and comb honey at 9@12c, on arrival.

BEESWAX—Demand is good and it brings 23@28 on arrival, for good yellow.

C. F. MUTH, Freeman & Central Ave.

SAN FRANCISCO.

HONEY—The market is quiet, there being no shipping demand and not much local trade. There are receipts of both old and new. One lot of 200 cases of old extracted arrived from San Jose. White to extra white comb, 7@9c; dark to good, 4@6c; extracted, choice to extra white, 4¾@5¼; amber colored, 4@4½.

BEESWAX—Quotable at 24@25c—wholesale.

O. B. SMITH & CO., 423 Front Street.

CLEVELAND.

HONEY—Is very dull just now during strawberry time, and although we hold at 14@15c per lb. best white 1-lb. sections, it is merely nominal, as there are no transactions. As soon as our people have satisfied their craving for acid fruits, they take very kindly to nice white honey, and we may look with confidence to a good demand in July, August and September.

BEESWAX.—Scarce at 28@30.

A. C. KENDEL, 115 Ontario Street.

KANSAS CITY.

HONEY—Small lots of new honey are beginning to come in, and fancy new comb brings a slight advance in the following prices: Choice ½-lb. sections, 15@16c; 1-lb., 13@14c; 2-lb., 10@12c. Extracted, new Southern, 5½@6c; California, 7c; new white clover, 8c.

BEESWAX—Weak at 25@30c.

CLEMONS, CLOON & CO., cor. 4th & Walnut.

☞ The Marshall County Bee-Keepers' Association will meet at the Court House in Marshalltown, Iowa, on July 18, 1885, at 10.30 a. m. Subjects: "Care of Honey." "Fall Management." All are invited.

J. W. SANDERS, *Sec.*

WEEKLY EDITION
OF THE
AMERICAN
ESTABLISHED IN 1861
OLDEST BEE PAPER IN AMERICA
BEE JOURNAL
PUBLISHED BY
THOMAS G. NEWMAN & SON,
PROPRIETORS,
923 & 925 WEST MADISON ST., CHICAGO, ILL.
Weekly, $2 a year; Monthly, 50 cents.

ALFRED H. NEWMAN,
BUSINESS MANAGER.

Special Notices.

Thos. G. Newman & Son will publish the AMERICAN BEE JOURNAL hereafter. The editorial department will be conducted, as heretofore, by Thomas G. Newman, and the business department by Alfred H. Newman. The firm will (as before the division, 5 years ago to-day), carry on the business of publishing the BEE JOURNAL, books and pamphlets, and keep for sale the usual assortment of bee-keepers' supplies.

◆

☞ If your wrapper-label reads JULY 85, please remember that your subscription runs out with this month. Renew at once, so as not to lose any numbers.

◆

☞ **Back Numbers.**—We can supply a few more of the back numbers to new subscribers. If any want them, they must be sent for soon, before they are all gone.

◆

Honey is good food and good medicine. Its regular use will ward off doctors' bills.

◆

☞ For two subscribers for the Weekly BEE JOURNAL (or 8 for the Monthly) for one year, we will present a Pocket Dictionary, and send it by mail, postpaid.

◆

☞ All who intend to be systematic in their work in the apiary, should get a copy of the Apiary Register and commence to use it. The prices are as follows:

For	50 colonies (120 pages)	$1 00
"	100 colonies (220 pages)	1 25
"	200 colonies (420 pages)	1 50

The larger ones can be used for a few colonies, give room for an increase of numbers, and still keep the record all together in one book, and are therefore the most desirable.

◆

☞ **Preserve your papers** for reference If you have not got a Binder we will mail you one for 75 cents, or you can have one FREE if you will send us 3 new yearly subscriptions for the BEE JOURNAL.

The National Bee-Keepers' Union.

CONSTITUTION.

ARTICLE I.—This organization shall be known as the "National Bee-Keepers' Union," and shall meet annually, or as often as necessity may require.

ARTICLE II.—Its object shall be to protect the interests of bee-keepers, and to defend their rights.

ARTICLE III.—The officers of this Union shall consist of a President, five Vice-Presidents, and a General Manager (who shall also be the Secretary and Treasurer), whose duties shall be those usually performed by such officers. They shall be elected by ballot, and hold their several offices for one year or until their successors are elected and installed; blank ballots for this purpose to be mailed to every member by the General Manager.

ARTICLE IV.—The officers shall constitute an Advisory Board, which shall determine what action shall be taken by this Union, upon the application of any bee-keepers for defense, and cause such extra assessments to be made upon all the members as may become necessary for their defense.

ARTICLE V.—Any person may become a member by paying to the General Manager an Entrance Fee of ONE DOLLAR to the Defense Fund, and an annual fee of 25 cents, for which he shall receive a printed receipt making him a member of this Union, entitled to all its rights and benefits. The annual fee shall be due on the first day of July in each year, and MUST be paid within 30 days in order to retain membership in this Union.

ARTICLE VI.—Donations of any amount may be made at any time to the Defense Fund, in addition to the entrance and membership fees and the regular assessments made upon the members by the Advisory Board.

ARTICLE VII.—The Defense Fund shall be used for no other purpose than to defend and protect bee-keepers in their rights, after such cases are approved by the Advisory Board, and shall only be subjected to Drafts regularly made in writing by the Advisory Board.

ARTICLE VIII.—The annual fees paid by the members shall become a general fund, from which shall be paid the legitimate expenses of this Union, such as printing, postage, clerk-hire, etc.

ARTICLE IX.—Meetings of this Union shall be held at such times and places as shall be designated by the Advisory Board, or upon the written requisition of ten members.

ARTICLE X.—This constitution may be amended by a majority vote of all the members at any time.

◆

☞ To create Honey Markets in every village, town and city, wide-awake honey producers should get the Leaflets "Why Eat Honey" (only 50 cents per 100), or else the pamphlets on "Honey as Food and Medicine," and scatter them plentifully, and the result will be a DEMAND for all of their crops at remunerative prices. "Honey as Food and Medicine" are sold at the following prices:

Single copy, 5 cts.; per doz., 40 cts.; per hundred, **$2.50.** Five hundred will be sent postpaid for **$10.00;** or **1,000** for **$15,00.** On orders of **100** or more, we will print, if desired, on the cover-page, "Presented by," etc. (giving the name and address of the bee-keeper who scatters them).

To give away a copy of "Honey as Food and Medicine" to every one who buys a package of honey, will sell almost any quantity of it.

☞ **Sample Copies** of the BEE JOURNAL will be sent FREE upon application. Any one intending to get up a club can have sample copies sent to the persons they desire to interview by sending the names to this office.

◆

☞ Our rates for two or more copies of the book, "Bees and Honey," may be found on the Book List on the second page of this paper. Also wholesale rates on all books where they are purchased "to sell again."

◆

Lizzie Cotton.—I would request all who have been defrauded during the past 10 years by Mrs. Lizzie Cotton, to send to me a plain statement of the case.—JAMES B. MASON, President of the Maine Bee-Keepers' State Association.

Advertisements.

HONEY WANTED.

I WILL PAY the highest market price for CHOICE EXTRACTED AND COMB HONEY. Address,

A. W. PRESTON, Kansas City, Mo.
28A4t

DOUBLE-WALLED
Langstroth Hives
FOR WINTERING BEES ON SUMMER STANDS.

THEY are made identical and interchangeable with our Standard Langstroth Hives, as advertised and described in our Catalogue. All upper stories and surplus arrangements made by us will fit this double-walled brood chamber. Prices: Nailed, **50c.**; in the flat, **35c.** per hive, in addition to our prices of the Standard Langstroth. We also make our 7½-inch Caps with a sloping or Cottage Roof, which is worth **20c.** nailed and **15c.** flat, in addition to the prices of the Standard Langstroth hive, which has a flat top.

THOS. G. NEWMAN & SON,
923 & 925 West Madison Street, CHICAGO, ILL.

Do you expect to go South?

ARE you in any way interested in the Farming, Stock-raising, Lumbering, or Mining interests of the SOUTH? Or are you going South for your health? If you are, why don't you subscribe for a good Southern paper? The

Blue Ridge Enterprise

gives reliable information about the Blue Ridge country of Western North Carolina—the finest section on the American Continent.

Published Weekly—only **$1.50** per year. Fifty cents in stamps will pay for the paper **3** months.

Address, "ENTERPRISE,"
28A4t WEBSTER, Jackson Co., N. C.

COMB FOUNDATION!
REDUCTION IN PRICE.

Until further notice, we will furnish Comb Foundation at 5 **cents per pound less** than the prices quoted in our Catalogues. This is caused by the decline in the price of beeswax.

CHAS. DADANT & SON, Hamilton, Ill.
THOS. G. NEWMAN & SON, Chicago, Ill.

Wooden Pails for Honey!

WE can furnish regular Wooden Water-Pails—well painted on the outside, and with 3 iron hoops and a tight-fitting wood cover, at **$2.25** per dozen. They will hold **25** lbs. of honey, and when empty, can be utilized for use as an ordinary household pail.

THOS. G. NEWMAN & SON,
923 & 925 West Madison Street, CHICAGO, ILL.

New and Enlarged Edition OF BEES and HONEY,

OR THE

Management of an Apiary for Pleasure and Profit; by

THOMAS G. NEWMAN.

Editor of the Weekly Bee Journal.

It contains 220 profusely illustrated pages, is "fully up with the times" in all the improvements and inventions in this rapidly developing pursuit, and presents the apiarist with everything that can aid in the successful management of the Honey-Bee, and at the same time produce the most honey in its best and most attractive condition.

PRICE—Bound in cloth, $1.00; in paper covers, 75 cents, postpaid.

☞ **A Liberal Discount to Dealers, by the Dozen or Hundred.**

☞ The Monthly BEE JOURNAL for a year and the bound book, "Bees and Honey," will be sent for $1.25.

THOS. G. NEWMAN & SON,
923 & 925 West Madison St., CHICAGO, ILL.

LEARN SHORT-HAND AND TELEGRAPHY BY MAIL

and take paying positions.

Instruction thorough and progress rapid.

☞ Send for Circular.

Brown's School of Shorthand & Telegraphy,
WM. H. BROWN, Principal, New Haven, Conn.

☞ *Situations secured for pupils when competent.*
26A3t

DR. FOOTE'S

HAND-BOOK OF HEALTH,

HINTS AND READY RECIPES,

is the title of a very valuable book that gives a great amount of information, of the Utmost Importance to Everybody, concerning their daily habits of Eating, Drinking, Dressing, Sleeping Bathing, Working, etc.

It Costs only TWENTY-FIVE CENTS and contains **28** pages, **and is sent by mail, post-paid, on receipt of price.** This is just the Book that every family should have.

IT TELLS ABOUT

What to Eat,
How to Eat it,
Things to Do,
Things to Avoid,
Perils of Summer,
How to Breathe,
Overheating Houses,
Ventilation,
Influence of Plants,
Occupation for Invalids,
Superfluous Hair,
Restoring the Drowned,
Preventing Near-Sightedness,
Parasites of the Skin,
Bathing—Best way,
Lungs & Lung Diseases,
How to Avoid them,
Clothing—what to Wear,
How much to Wear,
Contagious Diseases,
How to Avoid them,
Exercise,
Care of Teeth,
After-Dinner Naps,
Headache, cause & cure,
Malarial Affections,
Croup—to Prevent.

IT TELLS HOW TO CURE

Black Eyes, Boils, Burns, Chilblains, Cold Feet, Corns, Coughs, Cholera, Diarrhœa, Diphtheria, Dysentery, Dandruff, Dyspepsia, Ear Ache, Felons Fetid Feet, Freckles, Headache, Hiccough, Hives Hoarseness, Itching, Inflamed Breasts, Ivy Poisoning, Moles, Pimples, Piles, Rheumatism, Ringworm, Snoring, Stammering, Sore Eyes, Sore Mouth, Sore Nipples, Sore Throat, Sun-stroke, Stings and Insect Bites, Sweating Feet, Toothache, Ulcers, Warts, Whooping Cough, Worms in Children.

It will Save Doctor Bills!

Price only **25** Cents. Sent by Mail, post-paid,

THOS. G. NEWMAN & SON,
923 & 925 West Madison Street, CHICAGO, ILL.

Sweet Clover

— FOR —

BEE PASTURAGE.

IT MAY be sown on all waste places at any time, and will grow on any soil—in any climate. Price, 20 cents per pound; $2.75 per peck; $10.00 per bushel (60 lbs.)

THOS. G. NEWMAN & SON,
923 & 925 West Madison St., CHICAGO, ILL.

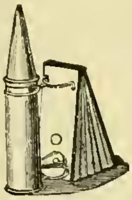
LOS ANGELES.

HOMES IN SOUTHERN CALIFORNIA.

> "Stern winter smiles on that auspicious clime,
> The fields are florid with unfading prime;
> From the bleak pole no winds inclement blow,
> Mould the round hail or flake the fleecy snow;
> But from the breezy deep the bless'd inhale,
> The fragrant murmurs of the western gale."
> —Homer.

FULL information concerning the garden spot of the world, beautiful LOS ANGELES, THE LIVELIEST AND MOST PROSPEROUS SECTION OF THE PACIFIC COAST, furnished by the Los Angeles **Weekly Mirror** a mammoth 72 column PAPER, the best weekly in Californa SEND FOR IT. Single copy, three two-cent stamps; six months, **$1**; one year, **$2.**

Address THE TIMES-MIRROR CO.,
25A13t Los Angeles, Calif.



Bee-keepers' Supplies,

Standard Langstroth,

Quinby Standing-Frame,

And all other kinds of **Hives,**

MADE TO ORDER,

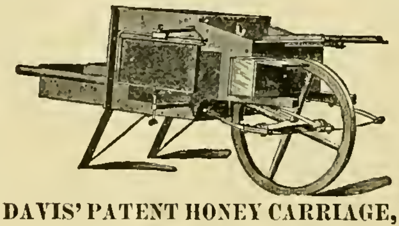
Quinby Smoker a specialty.

I shall supply anything you need in the Apiary Send for Illustrated Price List.

W. E. CLARK, successor to L. C. Root,
7A1y ORISKANY, Oneida County, N. Y.

$200,000 *in presents given away.* Send us 5 cents postage, and by mail you will get *free* a package of goods of large value, that will start you in work that will at once bring you in money faster than anything else in America. All about the $200,000 in presents with each box. Agents wanted everywhere, of either sex, of all ages, for all the time, or spare time only, to work for us at their own homes. Fortunes for all workers absolutely assured. Don't delay. H. HALLETT & Co.
51A1y Portland, Maine.

SYSTEMATIC AND CONVENIENT.

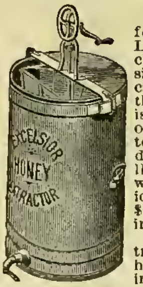


DAVIS' PATENT HONEY CARRIAGE,
REVOLVING COMB-HANGER,
Tool Box and Recording Desk Combined.

Price, complete, only.......... $18.00.

THOS. G. NEWMAN & SON,
923 & 925 West Madison St., CHICAGO, ILL.

EXCELSIOR HONEY EXTRACTORS



In answer to frequent inquiries for Extractors carrying 3 and 4 Langstroth frames, I have concluded to adopt these two new sizes. The 3 frame basket is in a can of the same size and style as the 2 frame. The 4 frame basket is in the larger can, with the cone or metal standard for the basket to revolve upon, leaving room underneath the basket for 75 or 80 lbs. of honey. It will be complete, with covers, and in every way identical, except in size, with the $16.00 Extractor, 13x20, which is intended for any size of frame.

Excepting with the $8.00 Extractors, all the different styles have strainers over the canal leading to the honey gate, and movable sides in the Comb Baskets. The $8.00 and $10.00 Extractors have no covers.

For 2 American frames,	13x13	inches	.........$8 00
For 2 Langstroth "	10x18	"	.... 8 00
For 3 " "	10x18	"	.........10 00
For 4 " "	10x18	"	.........14 00
For 2 frames of any size,	13x20	"	.........12 00
For 3 " "	13x20	"	.........12 00
For 4 " "	13x20	"	.........16 00

THOS. G. NEWMAN & SON,
923 & 925 West Madison Street, CHICAGO, ILL.

Re-Written and Enlarged! Third Edition of the

BEE-KEEPERS' HANDY BOOK

300 pages and nearly **100** fine illustrations. Price by mail, nicely bound in cloth, **$1.50** per copy. Book and tested Queen of any race, by mail, $2.50. Book and sample Drone and Queen Trap, by mail, $2.00. Our Queens cannot be excelled for beauty, purity, mild disposition, honey-gathering and wintering qualities. All my Queens are reared at the "Api. bee-farm." Send for prospectus and price list.

22A16t **HENRY ALLEY, Wenham, Mass.**

Send for "OUR HOME FRIEND,"

An 8-page, 32-column Semi-Monthly.

IT IS just the paper you need, as it contains an **Agricultural, Household, Young Folks, Temperance, Religious** and **Miscellaneous** department. Only **50** cts. a year, and will be sent **3** months ON TRIAL to the readers of the BEE JOURNAL for only **10** cents. General and local agents wanted. Address,

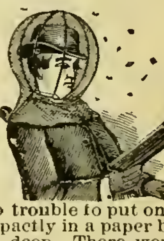
"OUR HOME FRIEND,"
26A6t Loudonville, Ohio.

W. Z. HUTCHINSON,

Rogersville, Genesee Co., Mich.,

Is now making a specialty of rearing **FINE ITALIAN QUEENS.** All Queens reared from the purest and best of mothers, and the cells built in full colonies. No Queens sent out that would not be used in the home yard. Single Queen, $1.00; six for $5.00; twelve or more, 75c. each. Tested Queens, $2.00 each. We can furnish White Poplar **SECTIONS.** Make Money Orders payable at Flint. 16Atf

A NEW BEE-VEIL.



There are five cross bars united by a rivet through their center at the top. These bars are buttoned on to studs on the neck-band. The bars are of best light spring steel; the neck-band of best hard spring brass; the cover is of handsome light material. It is very easily put together, no trouble to put on or take off, and folds compactly in a paper box 6x7 inches by one inch deep. There would be no discomfort in wearing it either day or night, and the protection against Mosquitoes, Flies, Bees, Gnats, etc., is perfect. The weight of the entire Veil being only five ounces. **Price, by Mail or Express, $1.00.**

Special discount to dealers, on ½ dozen or larger quantities.

THOS. G. NEWMAN & SON,
923 & 925 West Madison St., CHICAGO, ILL.

WEEKLY EDITION
OF THE
AMERICAN
ESTABLISHED IN 1861
OLDEST BEE PAPER IN AMERICA
BEE JOURNAL

THOMAS G. NEWMAN,
EDITOR.

Vol. XXI. July 22, 1885. No. 29.

APICULTURAL NEWS ITEMS.

EDITORIAL AND SELECTED.

Toiling at noon like the busy bee,
Teaching the little ones A, B, C,
Sowing good seed in their path along,
Sowing by action, by word and by song;
Never once pausing to count the cost,
Knowing that much that is sown is lost;
Bearing a prayer in her heart away,
Such is a mother's life, day by day.

Bee-Stings act as a curative agent in certain rheumatic affections.

White Clover honey is best for table use, and basswood honey is best for medicinal purposes.

Do not forget the National Bee-Keepers' Union. Send the fees ($1.25), and a printed blank will be sent to you by return mail, to fill up with your vote for permanent officers.

To give away a copy of "Honey as Food and Medicine" to every one who buys a package of honey, will sell almost any quantity of it.

The Fair at Rockford, Ill., held by the "Winnebago Co. Agricultural Society," will open on Sept. 7, and continue five days. Mr. C. C. Jones, the Secretary at Rockford, will send premium lists to all applicants.

Two Cents will now pay the postage for a letter weighing one ounce or less, anywhere in the United States or to Canada; but from Canada to the United States the postage is 3 cents for each half-ounce or fraction thereof.

Use no Moth-traps or complicated hives. If you use a good frame hive, and keep your colonies strong, you need not fear the moth. Ignorant and negligent bee-keepers, with poor hives, are the ones who lose bees by moths.

The Inter-State Fair at St. Joseph, Mo., begins on Monday, Aug. 31, 1885, and continues 6 days. Mr. E. T. Abbott, Superintendent of the Apiarian department, will furnish Premium Lists to bee-keepers sending for them. The premiums in this department amount to about $250.00, besides nine diplomas.

☞ **Back Numbers.**—We can supply a few more of the back numbers to new subscribers. If any want them, they must be sent for soon, before they are all gone.

Lamentation without effort to overcome difficulties, only exhibits our weakness. We are here to "work out" our deliverance from surrounding obstacles—to ride above the storms—to defeat the machinations of our enemies—to cause *truth* and *right* to triumph. The National Bee-Keepers' Union needs strong hearts, willing hands, and many shekels. Reader, are you willing to help? Is your name enrolled among the "National Guards" listed on page 460? If not, lose no time—but act at once! Send in your fees and become a member of the "National Bee Keepers' Union," and thus help to fight the battles of our pursuit in defense of its rights!

National Bee-Keepers' Union.—The way to meet ignorant and selfish *attacks* is by facing the enemy—meeting force by *superior force*—trusting in the right, but "keeping our powder dry." We want no half-hearted laggards in the army, but the vigorous, stout-hearted, patriotic, undaunted and daring are welcome! If we can raise a column of patriots sufficiently strong to present a good front, we shall *dare* the envious ones to "bring on their law-suits," and by "an imposing array" and "unbroken front," gain a lasting and permanent victory!

Systematic Work in the Apiary.—Mr. C. H. Dibbern in the *Western Plowman*, says: "The bee-keeper should lay out the work for himself, as far as possible, to avoid working in the hot sun. A great deal can be done in the mornings and evenings when it is cool, to have everything ready that will likely be required for the day's operations. If the bees swarm, when it is 100° in the shade, do not get excited and work yourself up to fever heat, but just let them swarm. When they have got nicely settled, shake them in front of the hive they are intended to occupy, and go about other business. If, after an hour or two, they have not occupied it, scrape them to the entrance, and soon all will be well."

Introducing Queens.—In answer to many inquiries for a good plan for introducing queens, we give the following from the *American Agriculturist*: "In introducing a queen, a weak or small colony is preferable to a large one. Have no accompanying bees in the cage—the queen should be alone. Young bees will accept a queen more readily than will old ones. No mailing cage that transmits queens safely is suitable for an introducing cage; in fact, a cage in which bees have been shipped is certain to have an objectionable odor. A new, clean cage made of fine wire-cloth should be used. It should not be less than six inches long, and 1½ inch across, so as to give the queen plenty of freedom, and it should be placed between combs of brood. If no honey presses against the side of the cage where the queen can feed herself, food should be placed in the cage. Noon is the best time of the day in which to release the queen. When bees are storing honey rapidly, they will accept a queen more readily. A young queen is more readily accepted than an old one. Black bees accept a strange queen the most readily of any variety of bees. When the bees are walking about unconcernedly upon the cage, caressing the queen with their antennæ, and offering her food, it is usually safe to release her; if they are clinging to the cage like so many burrs, wait until they are better natured."

Letters weighing one ounce can now be sent through the U. S. mail for two cents.

Undoubtedly many shiftless bee-keepers will drop the business; others having lost all their bees will throw away their old appliances, and beginning anew, will adopt a better class of hives and management; while others, having gained knowledge from the success of their neighbors in wintering, will learn how to manage effectually their bees in winters to come. Like philosophers, we must profit by experience, hope for the best, and prepare for the worst.

Opinions differ among the greatest and best of men. This fact should never cause hatred or malice. Our thoughts are but the "clothing" of the mind, and we might as well hate a person for being clothed in white or blue, because our choice is for green or black—as to be angry at the opinions of others, which do not agree with our own. Diverse opinions lead to wisdom, improvement, progress and knowledge—aye, our "liberties" of which we so often boast, are guaranteed by the diverse thoughts of our fellow men.

Mr. Henry Alley's new edition of his "Bee-Keepers' Handy-Book" is on our desk. It is re-written and greatly enlarged, and now covers the whole ground of bee-keeping. It contains 270 pages, and the price is $1.50. It has nearly 100 illustrations, and it is nicely printed and bound. As Mr. Alley has had an experience in queen-rearing and the management of an apiary for nearly a quarter of a Century, his book will be read with interest by all apiarists, and should have a large sale. It can be obtained at this office at the publisher's price.

Hard Wood Barrels, as usually made and kept in damp places, will not hold honey without waxing; but kegs holding from 50 to 200 lbs., if properly made with special reference to their being used for honey, will not need any waxing. They are more salable, more easily handled and more desirable than any other package for holding 50 pounds or more of honey.

Care of Comb Honey.—C. H. Dibbern in the *Western Plowman*, gives the following advice concerning the care of comb honey:

> "All comb honey should be removed as soon as the last few cells are capped over, otherwise the bees, constantly passing over it, soon soil the beautiful white combs. Pile the honey in a dry, warm place; do not put it into a cellar where it will attract dampness and sour. Where large quantities of honey are to be stored, a 'honey house' is an absolute necessity. Set the sections about an inch apart, so the air can circulate through them, and do not pile it so high that the lower ones will be crushed. To obviate this, I use a rack reaching to the ceiling, supported in such a way that not more than four tiers of sections rest on any one tier. I said a warm, dry place of course, the omnipresent moth-miller will appear in due time. Well, about two weeks after your honey has been stored, fumigate it with sulphur. This is best accomplished by filling an iron pot with live hard-wood coals. Set it in the middle of your honey-room—place some brick under it, and place the sulphur on the fire. Shut every opening tight, and leave it closed from 15 to 30 minutes, or until the last fly or bee drops dead. This treatment should be repeated at intervals of two or three weeks during hot weather."

☞ **Sample Copies** of the BEE JOURNAL will be sent FREE upon application. Any one intending to get up a club can have sample copies sent to the persons they desire to interview by sending the names to this office.

QUERIES

WITH

REPLIES by Prominent Apiarists.

Rearing Queens.

Query, No. 87.—I have decided that every colony that is intended to be run for comb honey *next* year must contain a queen of the *present* year's rearing. I desire *good* queens so that my stock may not deteriorate. In view of the foregoing, what plan can I follow in order to produce the best results for a series of years?—F. P. S.

G. M. Doolittle says: "I cannot conceive what line of argument could have been used to have brought F. P. S. to such a decision, for a queen two or more years old is as good as any, as a rule, in my apiary."

Prof. A. J. Cook remarks as follows: "Rear, by the nucleus method, queens from the best colonies; suffering drones to be reared only from superior colonies."

W. Z. Hutchinson advises thus: "Allow the bees to swarm naturally. The old queens can be destroyed, and young ones introduced in their places. These young queens can be secured by taking queen-cells from some colony that has sent out a swarm, and giving them to nuclei."

James Heddon remarks: "There are several methods; a choice depending upon your environments, etc., and a detailed description (the only one of value) would require an essay."

J. E. Pond, Jr., says: "To answer this question would require more space than is allowable. Consult any good text book; preferable, Alley's 'Bee-Keepers' Handy Book,' where the whole process is given in plain, simple language, that can easily be understood by any one."

Dr. G. L. Tinker remarks: "Where there is no choice of stock, kill the old queen, and let the colony rear one. In 5 days look through the colony and shake the bees from every comb, so that the cells can be discovered, and destroy those that are capped, as they will contain the larvæ that are too old from which to rear good queens. Bees do not cap over a cell containing a good queen larva, as a rule, in less than 6 days from the time the mother queen is removed. Of course the colony is to be well fed, if no honey is coming in, until the cells are all capped."

G. W. Demaree says: "I think that when your experience accumulates, you will find that your decision is not well founded. Queens at two years old produce the most steady, smooth-working colonies; but, in view of your position, the cheapest way to supersede your queens annually, is to remove the 'present incumbent' just before the close of the white clover harvest, and leave the colony to rear a successor."

Cause of Bee-Diarrhea.

Query, No. 88.—Two colonies side by side, exactly alike—as near as two peas can be—as to stores, pollen, age of queens, manner of preparation, etc., were prepared last fall for winter, and left on the summer stands. One died in the latter part of March with bee-diarrhea, while the other is the best colony in the apiary, never having shown any signs of that disease. Why did one die and the other live? and what caused the diarrhea with the one, when the other did not have it?—G. M.

Prof. A. J. Cook says: "Why does one child have scarlet fever, diphtheria, etc., and others not?"

G. M. Doolittle replies: "I give it up, for I cannot tell."

W. Z. Hutchinson says: "There certainly was a difference somewhere, otherwise results would have been similar."

Dadant & Son remark: "The care of bees is composed of minute details. There are a thousand causes for all that happens, but sometimes the differences are so slight, that it is very hard to detect the causes. Perhaps one of the colonies was better situated than the other—had more sunshine or a few more bees, or more honey above the cluster, and lost less in consequence."

J. E. Pond, Jr., replies: "It is utterly impossible for a physician to make a correct diagnosis, without knowing all the facts in the case. So with this question; in order to give an intelligent answer, it is required to know just how the bees were prepared for winter, etc., and even then it would be hard to give more than a theoretical answer. As the question now stands, no answer of value can be given, as there are so many factors that might form a part of the conundrum, that any answer would be perfect 'guess-work.'"

Dr. C. C. Miller says: "This is a very old conundrum; I give it up."

Dr. G. L. Tinker answers: "One colony suffered more from the cold than the other did. This may have been because it had fewer bees, or because the one that survived had a better quality of honey furnishing more heat; or, the one that died may have been the strongest, but owing to the manner of the preparation, it got too warm, and so became restless. There is only one method of ventilating bees in winter confinement so as to secure uniformity of result—that is, free lower ventilation."

James Heddon remarks: "This enigma is just as difficult to account for upon one theory as another. One was as damp as the other; one was as cold as the other; one should have hibernated as soon as the other; one was confined as long as the other. The one that had the diarrhea, discharged more pollen than the other; consequently it must have eaten more than the other, or have been less able to contain it without voiding, as it is now quite clear that bees do not normally void dry feces in the hive. Just what the difference between these colonies was, that caused one to eat more pollen than the other, I cannot tell at this distance, if I could were I on the spot. A microscope and chemicals will show the diarrhetic excreta to be pollen."

G. W. Demaree says: "Before answering your query, allow me to state some facts. I live in a Middle State, where the climate is neither Southern nor Northern, but partakes of the extremes of both. This state of things furnishes me with the best of facilities to study the cause of bee-diarrhea. In my experience of 40 years, I have never seen a case of diarrhea in its last stage, which means the soiling of the combs and the bees themselves; but every excessively-long, cold winter has showed the trouble in its incipiency. Twice the past winter some of my colonies, at the close of a severe winter spell, were distressed with dropsy of the abdomen, which was relieved by an open-air flight. Mr. Geo. B. Peters, of Arkansas, a gentleman of learning and close observation, says that with an experience of 60 years, he has never seen a case of bee-diarrhea. Now mark this, Mr. Peters lives in the South, and therefore has never seen a case of bee-diarrhea; I live in a Middle State—have seen the disease in its incipiency often, and at times have seen the bees distressed with it for a short time, but I never saw a fatal case. Less than 100 miles north of my location, the disease sometimes proves fatal, and from thence north, its ravages become common. These facts prove beyond question that exposure, incident to long, cold winters, is the *first* cause of the trouble. Now for your query: Exposure to opposing conditions is the first cause; bees are not exceptions to the general rule we see exemplified everywhere—one perishes and the other survives."

Superseding Queens.

Query, No. 89.—Are bees prone to supersede a queen having a clipped wing, before she attempts to lead a swarm? The first 3 swarms that I have had this year, have been from colonies having queens whose wings were clipped, which reared young queens before they attempted to swarm, then killed the old queens and were led by one of the virgin queens.—J. M.

Dr. G. L. Tinker answers: "The only instance of this kind I have had, was where the queen had become old."

Dr. C. C. Miller says: "I do not believe that clipping wings has any thing to do with it."

Prof. A. J. Cook replies: "I do not think so. Does J. M. know that the old queens were not lost in a previous attempt to swarm? I think that was most probably the case."

Dadant & Son say: "This happens very often when bees wish to swarm, if from any cause the queen cannot or will not follow the swarm."

J. E. Pond, Jr., remarks: "I have not found that clipping queens' wings had anything to do with superseding, and I do not believe that it does have any such effect."

G. M. Doolittle answers: "After an experience of over 12 years with queens having clipped wings, I cannot see as they are any more liable to supersedure than those not having clipped wings. Probably the queens spoken of were superannuated."

James Heddon replies: "I have had many queens whose wings were clipped attempt to lead off, or I might more properly say, go off with a swarm. I have also noticed that bees are more apt to supersede queens, and also swarm, if such queens have clipped wings."

G. W. Demaree answers: "In my apiary, queens whose wings are clipped have been superseded before and after swarming. My queens' wings could not be clipped for two-thirds of their value in cash. The practice should be discouraged."

Producing Extracted Honey.

Query, No. 90.—Which is the better for producing extracted honey, an 8-frame or a 10-frame Langstroth hive?—T. J.

W. Z. Hutchinson says: "An 8-frame hive."

J. E. Pond, Jr., answers: "This is a matter of opinion. I prefer, however, the 10-frame; others I believe prefer 8-frames; but good results will follow with either."

Prof. A. J. Cook replies: "I do not think that it makes any essential difference."

Dr. C. C. Miller remarks: "I should prefer the larger hive, but I have had little experience of late years."

G. M. Doolittle says: "Neither alone are adapted to producing extracted honey, but of course the 10-frame is the best. For extracted honey not less than 15 Langstroth frames should be used, and 20 would be better."

Dadant & Son answer: "A 10-frame Langstroth is better for all purposes, and in fact hardly large enough. We wish it understood that we do not at all agree with some apiarists in preferring a small hive. We believe that the more bees we rear, the more honey we get. Two-thirds of the queens that are reared are crowded for laying-room in an 8-frame Langstroth hive, and the result is too much natural swarming. We speak not from theory, but from experience, after comparing the 10-frame Langstroth with a larger hive, in lots of 100 or more together in one apiary, under the same treatment, for 8 or 10 years. We have them side by side yet, and we can prove it every season."

G. W. Demaree remarks: "Each apiarist will have to test his own locality if he would have the best results. In this climate the 10-frame Langstroth hive gives the best returns, as a general rule."

Dr. G. L. Tinker says: "The form and size of a hive in producing extracted honey does not matter, provided that combs may be added by tiering up the hives, or otherwise, as fast as the bees will fill them."

James Heddon replies: "I prefer the 8-frame, because I have no need to go down into the lower story for honey. I much prefer it for all the other manipulations necessary during the year."

CORRESPONDENCE.

Explanatory.—The figures BEFORE the names indicate the number of years that the person has kept bees. Those AFTER, show the number of colonies the writer had in the previous spring and fall, or fall and spring, as the time of the year may require.

This mark ⊙ indicates that the apiarist is located near the centre of the State named: ♁ north of the centre; ♀ south; ○+ east; +○ west; and this ♂ northeast; ⌐○ northwest; ○⌐ southeast; and ♀ southwest of the centre of the State mentioned.

For the American Bee Journal.

The Peaceful Habits of the Bee.

REV. L. L. LANGSTROTH.

Friend Newman: Please enter my name as a member of the National Bee-Keepers' Union, and charge the fees to my account. Its formation is a great step in the progress of American bee-culture.

A few words about that lawsuit: That bees will drive sheep or any other animal from a pasture, will never be credited by any one who is well acquainted with their habits. The following extract from my work on the "Hive and Honey-Bee," is important in this connection:

"Those who are alarmed if a bee enters the house, or approaches them in the garden or fields, are ignorant of the important fact, that a bee at a distance from its hive, never volunteers an attack. Even if assaulted, they seek only to escape, and never sting unless they are hurt.

"If bees were as easily provoked away from home, as when called to defend those sacred precincts, a tithe of the merry gambols in which our domestic animals indulge, would speedily bring about them a swarm of infuriated enemies; we should no longer be safe in our quiet rambles among the green fields; and no jocund mower could whet or swing his peaceful scythe, unless clad in a dress impervious to stings. The bee, instead of being the friend of man, would, like savage wild beasts, provoke his utmost efforts for its extermination."

I would just as soon expect the sheep in a white clover field to fly up into the air against all the laws of gravity, as to have them molested by the bees. Instead of *arguing* further on the point, let me give a short extract from a work published by John Mills, London, in 1776, page 76:

"That the number of our colonies might be greatly increased wherever there is proper pasture for bees, appears evidently from Mr. Wheeler's narrative, and is confirmed by the following passage in the account lately published of the sheep in Spain: 'If sheep loved aromatic plants, it would be one of the greatest misfortunes which could befall the farmer in Spain. The number of bee-hives there is incredible. I am almost ashamed to give under my hand, that I knew a parish priest who had 5,000 colonies. The bees suck all their honey and gather all their wax from the aromatic flowers which enamel and perfume two-thirds of the sheep-walks.' "

It seems to me that the above settles the matter in regard to bees interfering with sheep while pasturing.

Oxford, ♀ Ohio, July 10, 1885.

For the American Bee Journal.

Introducing Queens.

16—G. M. DOOLITTLE, (80—50.)

As the best time in the whole year for supplanting superannuated queens, is just before the close of the honey harvest, and as I hear so many complaints of the loss of queens in introducing, I thought that an article on introducing queens would not come amiss just at this time. In introducing queens, it should always be borne in mind that a queen taken from one hive in the apiary, and introduced into another in the same apiary, does not require one-half the care that must be given a queen coming from a distance by mail or express. The reason for this seems to be that a queen taken from a hive in the same yard is still heavy with eggs, and will not run around provoking the bees to chase her, as will a queen after having had a long journey.

In introducing all ordinary queens coming from my own apiary, I generally adopt one of the two following plans: The first of which is to go to a nucleus, or the hive from which I wish to get the queen to supersede the one that I do not want, and when she is found I take the frame she is on, bees and all, together with another frame from the same hive, carrying them near the hive from which I am to take the superannuated queen. I next hunt out the poor queen, and after killing her, take out two frames from this hive, and place the two frames brought from the nucleus, in their places, then closing the hive. Now shake the bees off the two frames in front of the hive, and carry them to the nucleus, or carry bees and all, if you prefer.

The object in taking two frames with the queen is so that while waiting outside of the hive, she and most of the bees may get between them, so becoming quiet, and when placed in the hive, both are put in together, thus leaving the queen quiet among her own bees. In this way I do not lose one queen out of 50, and as the operation is so simple, and the queen so quickly installed, the advantages more than over-balance so small a loss.

The next plan is to go to my nucleus and get my young queen in a cage before looking for the queen to be superseded. I next look for her and kill her, when the hive is closed. I now blow in at the entrance enough smoke to alarm the whole colony, pounding with my fist on the top of the hive until I hear a loud roaring inside, which shows that the bees are filling themselves with honey. I now turn in the queen to be introduced, at the entrance, smoking her in, while I still keep pounding on the hive. In doing this nothing but wood smoke should be used, for if tobacco smoke were used, many of the bees would be suffocated. If done when there is danger of robbing, wait till just at night. The idea is to cause the bees to fill themselves with honey, at the same time smoking them so the queen and bees smell alike. By this plan I seldom lose a queen, but it is not quite as simple as the first. I adopt it only where a nucleus has but few bees, or where it is not handy to adopt the first; however, it is equally as successful as the other.

In introducing queens that come from abroad, I have heretofore used the caged-frame-of-brood plan, as I gave a year or two ago in the BEE JOURNAL. By this plan a frame of hatching brood is placed in a wire-cloth cage, and the queen and her few attendants let out on this caged frame, when the whole is hung in a hive and left for 5 or 6 days, at which time I have the cage full of bees, while the queen has filled the vacated cells with eggs. The cage is now taken to a hive where I wish a colony to stand, and the bees turned lose by taking the frame out of the cage. The little colony is now built up by adding frames of hatching brood from time to time. This plan is absolutely safe, and if all who have lost valuable queens will try it, we shall hear no more of so many losses in introducing. All there is against it is, that it takes some time to build up the colony in this way, and if such a queen should come in September or October the bees could not be gotten in good condition for winter.

Since using my plan of caging bees in forming nuclei, as given on page 277, I have struck on another plan which is always safe, and by which a full colony can be made at once. I take my funnel and cage, as described in a previous article, and go to any hive that can spare a colony, or one that is large enough to be divided, and after hunting out the queen, I put the frame of brood she is on, outside of the hive. I then smoke and jar the hive and bees till they are well filled with honey, when I shake as many bees as I wish down through the funnel into the box, when the box is placed in a cool place (I use a cellar), and left for 3 or 4 hours; never less than 3, and 4 is better. After putting the bees away, of course the frame having the queen upon it is put back in the hive, and the hive rearranged. When the 4 hours are up, I take the valuable queen in a round wire-cloth cage and go to where the bees are, dumping them all to the bottom of the box by putting it down suddenly, when the queen is at once put into the box by letting her in through a hole previously made for that purpose. They are now left for 5 or 6 hours, or until nearly sunset, when a hive is prepared for them, having in it one frame of brood if possible.

I now bring them from the cellar and hive them the same as any swarm is hived. Towards fall the bees may be taken from several colonies, so that a good colony is formed without injuring any others. If either of the last two plans are followed, a queen can be safely introduced immediately after receiving her, no matter how far she has come, or at what time of the year. I have never received so many enthusiastic reports over any article I have written, as over this new caging-plan of forming nuclei. I am written to for funnels, cages, etc., and I wish to say here, so as to save both them and myself trouble, that I do not make supplies of any kind, practical bee-keeping being my only business.

Because I said, get a funnel, box, etc., it does not follow that there is no other way of accomplishing the same object, although, perhaps, these are more handy. If you do not have a funnel, etc., take a hive and make it tight except at the top, which is to be covered with wire-cloth. It is also to have a hole somewhere through which you can introduce the queen when you wish to. Now hang in the hive, or place near by, frames covered with bees to the amount you want, and quickly shake them on the bottom of the hive, putting on the wire-cloth before many can get out, using this hive for your cage. In reading any article do not think that you must have every thing exactly as the writer says, but take the principle of the thing, putting it into practice in a common-sense sort of a way. Another thing, take it cool, do not get excited and off your balance if you wish success to crown your efforts.

Borodino, N. Y.

Prairie Farmer.

The Season, Bee-Moth, etc.

MRS. L. HARRISON.

To-day it is quite cool, and last night it was cooler, which prevents the secretion of nectar; very little white clover honey will be secured in this locality. If the weather is favorable, a small amount may yet be stored, as bees are in fine condition, there having been just enough honey to keep up brood-rearing. When there is a great flow, the queen is crowded out, as the bees will encroach upon the brood-nest, in their eagerness to save as much as possible. I have, at such times, inserted an empty comb in the centre of the brood-nest, thinking to give the queen some room, but I found on investigating, a day or two later, that every cell was filled with honey. Their motto is, "make hay while the sun shines."

The basswood or linden (*Tilia Americana*) is now in the bud, and promises well. The honey from this source is splendid and abundant. I am sorry to say that this tree has "off years," but I hope that this is not one of them. A colony has stored more, however, from linden in one day, than from any other source. In this locality the bloom lasts but a few days, it appearing to open all at once; in hilly and mountainous countries, it lasts for weeks. A Vermont bee-keeper told me that in the valley where he lived, the basswood opened much earlier than on the mountain side, and that his bees followed up the bloom as it gradually opened, according to elevation, for weeks.

Now is a good time to notice the value of queens, and mark those not keeping up to the standard. Her throne should be given to another as soon as an opportunity occurs. When a colony having a choice queen has swarmed, after eight days it may be examined, and a frame containing a queen-cell, brood and bees, be removed to an empty hive, and confined to one side by a division-board; let there be two frames, one of honey. The queen will emerge, become fertile, and can be introduced to another hive, supplanting a poor one, or be built up into a strong colony. Rearing queens in this way saves the time of a full colony. The queen to be supplanted can be laying up to the moment of her removal, and another laying one introduced.

The bee-moth is quite abundant at present, and tries to introduce its eggs wherever it can. I am daily handling the comb of Italian bees, but I fail to find the larvæ of the moth in them. If there is a crevice into which the bees are unable to gain access, the moths may be found; sometimes under a division-board, if there is not sufficient room for a bee to crawl. In the evening I see the moths around, and I kill them in hives of empty comb in the day-time. They are the color of old wood, and do not fly very fast. Where there is a nucleus in a hive with a division-board, the empty space can be filled with comb, and the bees will protect it from the ravages of the larvæ of the moth. I noticed this spring that in hives containing honey where the bees had died, that robber bees destroyed the larvæ of moths. Italian bees war with them continually; black bees let them revel in their choice comb.

Peoria,⊙ Ills., July 2, 1885.

For the American Bee Journal.

Defending the Assailed.

WM. M. BARNES.

I must admit that I am greatly surprised to read of the accusations brought against the honey-bee, such as the puncturing of grapes, reducing the yield of buckwheat, and driving sheep from the pasture. I have been keeping bees for 10 or 12 years, and last season I had 68 colonies within 20 rods of a neighbor's pasture of white clover, and there has been no complaint from him, of bees interfering with his stock in these pastures; neither have the bees impaired my grapes on the vines which grow as shades for the hives. This thing of Mr. Powers trying to collect damage from Mr. Freeborn is too absurd.

I am well acquainted with the defendant in this case, and know him to be just such a man as we all would select as a neighbor; he is making a little money out of his bees, and attending strictly to his own affairs. Knowing this of him, let us come to the rescue.

I wish to say a word here to the soldier bee-keeper who was in the deadly strife during the civil war—it matters not which side he may have espoused. I would ask him if he cannot recall the battles wherein he was engaged, and after fighting all day, and just at evening when he was all worn out with the fatigue of battle, and the uncertainty of victory—just at this critical moment word comes along the line that re-inforcements were coming. Have you not cast your eye to the left, right, and rear, and did you not see your friends in hosts, with music filling the air, and banners flying in the breeze? Brother soldier, did you not feel that victory was on your side? Have you been there? If you have, this is all plain to you; if not, you cannot realize the situation. But we do see one of our calling assailed; now let us rush to the rescue, and let us shout that re-inforcements are at hand, and back up the statement with our little $1.25, and make each other feel that we are not alone in the evening of our lives, after fighting the reverses of a lifetime.

Boaz, ♀ Wis.

Scientific American.

Fertilization of Red Clover by Bees.

To the Editor of the Scientific American:—I notice a correspondent of your paper says that honey-bees do not fertilize red clover blossoms. They are often very busy working on red clover, especially the Cyprians and Italians, and why do they not fertilize it? They may get honey too far from the base of the tube, while the bumble-bee's tongue reaches to the base. If the scarcity of bumble-bees accounts for the lack of seed on the first crop of clover, why not cultivate and domesticate the bumble-bee, and winter them so as to have enough of them to fertilize the first crop? It would certainly be advantageous to the hay, also seed the ground by shattering.

We need not cultivate bumble-bees if we could find some other insect that would answer the purpose, and one that would combine some other points of usefulness would be preferable, but clover seed in first crop is a price worth some labor to secure, is it not? B.

[A valued correspondent, who is an experienced agriculturist, to whom the foregoing was submitted, gives the following reply: Italian bees and some other varieties of honey-bees gather some honey from red clover blossoms, when the secretion of honey is profuse, but no race of bees has yet been introduced or produced having a tongue of sufficient length to *exhaust* the honey secretion from red clover blossoms. The honey gathered from red clover is of superior quality, and very fine color.

The fact that not more than one-fifth of the first crop of red clover blossoms contains seed, seems to prove that honey-bees do not fertilize that variety of flora. This failure probably results from the insufficient length of the ligula in honey-bees to properly deposit the fecundating pollen. May it not, in a measure, be due to some singularity of the form of the pistils, which may only be entered by the longer and stronger ligula of the bumble-bees? It would also appear that the fertilization of red clover blossoms is chiefly, if not wholly, performed by bumble-bees.

Darwin, in his "Origin of Species," alluding to this fact, says: "We may infer as highly probable that were the whole genus of humble-bees to become extinct or very rare in England, the heart's-ease and red clover—which they fertilize by carrying pollen from flower to flower—would become very rare, or wholly disappear."

The cultivation of red clover was not successful in Australia until after the importation of bumble-bees to that country.

In suggesting the cultivation and domestication of the bumble-bee, in order that a sufficient number may be present in time to fertilize the first crop of red clover, the correspondent introduces a subject full of interest and stings, particularly stings. He also apparently overlooks the fact that the bumble-bee belongs to the solitary species, and, as is the case with the wasp, ordinarily only the queen survives the winter.

The partial domestication of the bumble-bee, even to the extent of furnishing warm winter quarters, and the stimulation of early breeding, would be attended with such difficulty that economy would suggest that the matter be left entirely to nature.]

For the American Bee Journal.

Eating Poisonous Honey.

W. A. PRYAL.

All bee-keepers have probably seen bees at some time or another, working on plants that are known to be of the most poisonous character. Thus we see an occasional bee on the flowers of *Solanum nigrum* (black night-shade), one of the most poisonous of plants. In Europe we read that bees gather honey from the flowers of the rhododendron, the eating of which honey is said to be attended with fatal results. In this State there are one or two native rhododendrons, and up to the present time we have not heard that the honey gathered from them, if any is collected by the bees, is poisonous.

Not many months since our newspapers published dispatches from New York State, giving the fatal poisoning of a family that had partaken of wild honey. The telegram gave the name of the supposed plant from which it was obtained by the bees, but as I did not make any note of it, the name has slipped my memory.

Many cases of supposed poisoning from dangerous honey-plants I think can be traced to where the bees have had access so some other poisonous substance. I remember of reading in one of the bee-papers, 7 or 8 years ago, where some person, a scientist I believe, recommended fruit-growers who were bothered by bees, to place cobalt within their reach. At once the cry from every one in the land who had heard of this advice, was raised against it, for reasons that are apparent to the reader.

In this State ground-squirrels are a great nuisance, and they keep the farmer at his "wit's end" devising means to exterminate them. Poisoning them is the usual way, and for this purpose strychnine and phosphorous is used in different ways. One method is to boil wheat till soft, then add strychnine and sugar—the sugar forming a coating on the wheat which holds the poison. Some dry this mixture ere it is placed at the squirrel's burrow, while others throw a spoonful of the moist compound at the holes of the burrows for the pestiferous little animals to regale their appetites at their leisure. Just imagine that a bee should chance to pass and smelling some sweetness wasting itself on the desert air, and should improve the shining hour by going in quest of it; and finding it, suppose the bee should store up some loads of it in its own sweet home; and let us suppose further that the man who was dealing out death to the ground-pests should lay his bucket of poison down in order to drive out a cow from his garden, and that he should forget to return to the bucket for some hours; that during his absence one of those far-smelling bees should make a raid on the bucket, and in due time invite his brethren to feast on the spoils; in those few hours how many drops of fatal poison might those bees store up in the waxen cells, which, in course of time, would find its way to market! (Though we write of this, let us hope that it will never happen). Thus a whole family might be poisoned through the thoughtlessness of this man. But, according to our supposed case, our readers know the reason, still the dispatches and newspaper reports would not be likely to state it in the same light; instead it would be flashed over the wires that the family was poisoned by eating "wild honey," thereby giving the impression to the reading public that it is dangerous to eat honey at any time, as in it may lurk "grim death."

Cases of poisoning are apt to occur in "the best regulated families," and honey—admitting that "wild honey" is sometimes poisonous—may cause some unpleasantness in the household. But how much more often do we hear of the fatal results of eating canned meats, fruits and vegetables, the "taking of the wrong medicine," and others *ad infinitum*. Cases of honey poisoning are "like angels visits—few and far between," and hardly one case is reported in ten years, and then when the bottom facts are known it might turn out that it was not poisoning at all.

North Temescal, Calif.

Farmers' Advocate.

Extracted Honey, and Extracting.

G. B. JONES.

Extracted honey is obtained by means of a honey extractor. The combs from which it is to be taken are uncapped and placed into this machine, which, when operated, separates the honey from the comb by centrifugal force. The honey is then drawn off through a faucet, and the comb returned to the bees, or not, as considered best.

Extracting should begin as soon as the brood-chamber becomes clogged with honey sufficiently to prevent the queen laying to her full capacity, and repeated as often, but no oftener, as is necessary to keep the brood-chamber open to the queen. The one-story hive has less room than a two-story one for the accumulation of honey, and so must be oftener treated (which is a serious objection to it), and for its manipulation for extracted honey no better rule than the above can be given here. But if we use the two-story hive, then we can regulate our time for extracting so as to procure the best results, as follows: Until the clover has begun to yield plentifully the bees should be confined to the lower story, and this should be kept freed from honey, except a little (say an inch) along the top box of each frame. As soon, however, as the clover harvest is well in, the upper story should be put on. It should contain two or three cards of hatching brood from below, whose places should be filled by nice clean combs, or full sheets of comb foundation.

A division-board must be placed on each side of these combs, and a quilt upon them; also a quilt over each set of uncovered combs of the brood-chamber. The bees will follow the brood, and as fast as it hatches out, will fill its place with honey, while the queen will fill the new combs below with eggs. By the time these upper-story combs are nearly full of honey, some empty ones (or full sheets of foundation) should be interspaced with them, and every drop of honey extracted from the brood-chamber. When these last combs are nearly filled, take another card of hatching brood from below, and in its place put en empty comb or full sheet of foundation. Put the card of brood into the upper story, and as many combs or full sheets of foundation as are required to make up its full complement. By this system of manipulation the bees have not only been given storage room as they needed it, but have been gently coaxed to use it, and, at the same time, the queen has been supplied with empty brood combs, the best way to stimulate her to lay to her very utmost. By the time the last combs given them are filled, the first ones will be sealed over and ready to extract. This system also allows the honey time to ripen without in any way cramping the surplus department. When extracting, remove only the full combs which are at least half sealed over; spread the others towards the sides of the upper story, and in the centre put empty combs. The partly filled ones will be ready to extract next, and so on. The combs taken from one hive, when empty, will do to replace the full ones of the next.

Have a good extractor in first-class order; the best honey-knife you can get, and sharpened to a razor edge; some efficient substitute for a capping can; a large pickle crock or headless ten-gallon keg will do, if a wire cloth bag about a foot deep and the full size of the mouth of the vessel be hung over it; across the opening of this bag secure a wooden strip an inch square to rub the knife upon when clogged with cappings. Have all these implements placed conveniently in a bee-tight room near the apiary. Now light a good smoker and proceed to the hive; do not blow smoke in at the entrance, but remove the cover, raise one corner of the quilt, puff in a little smoke, and raise the whole quilt gradually from the corner, at the same time deliver a continual cloud of smoke, but it must not be hot or strong. As soon as the bees have quieted down, remove the combs to be extracted one by one, carefully shaking as many bees as possible from them, or brushing the rest with a goose wing, in front of the entrance. As each comb is cleaned, place it into a comb bucket or spare story, and give the bees an empty one as directed above. When all are ready carry them to the extracting room, and uncap each as carefully as you can on both sides, and place it into the comb basket opposite another of as nearly as possible the same weight, and work the machine. When all are done take them with you to the next hive and put them in place of its full ones, and so on.

The care of extracted honey is of the greatest importance, and if neglected the flavor of honey is spoiled or destroyed. As soon as extracted, the honey should be strained through a piece of green baize into a can which will hold at least twenty gallons, and having a faucet at the bottom. Here it should stand for a week or more, in a warm room, with a light cotton cover. After this it may be drawn off into the vessel in which it is to be sold, and left standing uncovered till all the bubbles have disappeared, when it should be sealed up tight, and kept in a warm, dry and dark place till disposed of. The last quarter of the honey drawn off will be poorer than the rest, and should be used for feeding, cooking, etc., or sold as second quality at a lower price.

Brantford, Ont.

For the American Bee Journal.

A Lesson in Apiculture.

13—W. HARMER, (56—9),

My report for the past winter is almost a complete reversal of that of the winter before (when I wintered 19 colonies without loss), as I lost 47 colonies out of 56. I am ashamed to say that I believe this was in great part my own fault; for I left quite a number of colonies to be fed in winter, as I had done so before with good results. This is very poor cellar-wintering (if it can be called a cellar). They were wintered in a "dug-out" under my bee-house, preparatory to making a good brick-walled cellar as soon as possible. All the weather prophets here predicted an open winter, and nobody seemed prepared for such severe weather. The oldest inhabitants say that they never knew such a severe winter in this part of Michigan.

My loss is quite a disappointment, for there is a good honey-flow now from white clover—our main honey source—and what bees are left are not in a condition to make the most of it. It was May 10 before my bees were out of their winter quarters. I have every convenience for working 100 colonies, and I have been keeping bees long enough, one would think, to have made a better winter report. My bees died with the diarrhea while breeding—diarrhea without brood or honey, or in other words, by starvation. But I am not discouraged. I shall build up my apiary again, hoping that the past loss will teach me how to do it on a surer footing. I shall try and make this costly lesson pay me back with interest in the future.

In regard to the Powers-Freeborn suit, I think that Mr. P. has made a great mistake somewhere, and that Mr. Millard's able article on page 379, will solve the problem. I am glad to see so many bee-keepers with their dollars ready for the defense fund, for dollars mean defense; mine is not ready, but I hope it will be soon, at any rate in time to help bring up the rear of this case if needs be.

Manistee, Mich.

Read at the Maine Convention.

Dividing Colonies for Increase.

W. H. NORTON.

This is a subject of great importance, for I consider that when the bee-keeper can divide his colonies and can make them up just as he likes, he has found one of the secrets of success. By this method he can have his "dish right side up," or rather his bees in the right condition at the commencement of the honey season.

I wish to ask, for what do we keep bees? I, for one, am obliged to say that it is mostly for profit, or, rather, honey and the increase of bees. This being our object, how shall we procure the best result? By natural swarming, or dividing? To illustrate, we will take 2 colonies—one we will allow to swarm, the other we will prevent from swarming and divide it. We will now try to trace them through the season.

First, take the one we are to divide. Our first object in the spring is to build up our colonies good and strong in numbers for the honey season, as it requires bees to get any honey. In this Northern climate it is all that we can possibly do to get them in good forces at the time of the honey-flow, then we propose to put on the sections, or use the extractors, and give them room to work; if rightly managed, and if they have sufficient room in the brood-chamber, and plenty of surplus room, you will soon have a large colony with plenty of honey; and when the honey season is nearly over, you can take off the sections, divide the colony, introduce the laying queen, and then they are in the best of condition to be prepared for winter; that is, they have a chance to rear a colony of young bees, and can supply them with wholesome stores to winter on.

Now, let us see how the other colony is doing—the one which is to swarm naturally. To give it a fair chance, we will allow it to be equally as strong at the beginning of the honey season. In order to have them swarm naturally, we must let them get crowded for room—that is, get the brood-chamber packed full, and perhaps what few sections are on. As they get this done, it being in the height of the honey-flow, they find that their house is too small for them, and they begin to prepare to swarm, as follows: Finding the queen has no room in which to deposit her eggs, and being crowded with bees which have no room to work, they hang out on the exterior of the hive. Usually a heavy force puts in their time in this way; and recollect that this is right in the midst of the honey-flow. At this point they begin to build queen-cells; after a few days the queen, if not having any vacant room, deposits eggs in them, which require three days to hatch. Then they remain for five days in the larval state before they are capped over, and usually on the second day after the first queen-cell is capped, if it is a fine day, the first swarm issues.

There has been, so far, ten days lost, and the colony is left in such condition that they cannot do actual work, and this, too, just when they should be doing their best. Of course all are aware that the first swarm which issues is the force of working bees and the old queen, comprising nearly all that can fly, except a few which are left in the field. The old colony is now composed of the brood, several queen-cells, the young bees, and a small number that have returned from the field. The queen-cells, according to the rules of nature, do not hatch for several days. After the next queen is about three days old (making about nine days from the time the first swarm issued), she comes out to mate. During this time the colony has built up from hatching brood, and, owing to the prevailing excitement, follows the queen out which makes the second swarm. The colony is now so reduced that when another queen comes out to mate, there is not enough bees left to follow her out, and she is allowed to go back, and in six days commences to lay—an operation at that time very much needed, as there have been no eggs deposited in this hive for about 21 days.

Let us now compare and see which is preferable, natural swarming or division. First, the colony has swarmed, has gone through with all this process and loss of time during the best of the season, besides being all cut up, requiring more house-keepers, and leaving less bees for the field; on the other hand the colony that you are to divide at the close of the season, contains nearly or quite as many bees as all of the 3 swarms together; there is no laying out if properly managed; no loss of swarms by their going away to the woods; no loss of queens; not so many hives to care for and guard; not so many house-keepers required, allowing more bees for the field; in fact, this colony is doing the right kind of work, and that, too, at the right time, as we cannot get a very large amount of honey out of season.

There are several reasons why I object to natural swarming; one is, where a bee-keeper is rearing queens that are out, or that are enticed to come out by the excitement, then join the swarm, and he suffers the loss of several queens. He may say that he does not care for that, as he does not rear any queens, and lets his bees swarm naturally. Now I say that he is rearing queens just the same, to a certain extent.

After the swarm has issued you are in the same fix—you have what is left with a queen that is not mated, and when she comes out to mate, she is just as liable to join the swarm as not; if she does you lose your queen, leaving your colony queenless and with no brood from which to rear another. If you do not notice the loss, and do not give them another queen, the colony will soon dwindle and be useless. Some may say, how can we keep them from swarming? It is simply by understanding thoroughly the nature of the colony; that is, give them the room they require, and when they require it.

I would say, that if you have a colony that you are afraid you do not understand well enough to keep them at work, and prevent them from swarming, it perhaps would be well when they show signs of swarming, to divide in this way: Take out a two or three frame nuclei and the old queen, and replace her by introducing a young laying queen. I think that this will prevent further trouble. Right here we get the benefit of dividing; in fact I do not see how we are going to get along without dividing. I do not say that it is best for all to divide their colonies, further than they rightly understand it, for if it is not done rightly, it is better to let them alone.

Dividing colonies has something more to it than merely to make a separation. One must thoroughly learn the nature of this wonderful insect so as to help nature, for when you divide a colony you have got everything in your own hands.

I wish to call attention to more trouble than would be experienced in natural swarming if you had 200 colonies or more, in one yard, as I have had the pleasure of witnessing, and this, too, being a small garden-spot. How do you think that your courage would be in such a yard as this, on a good swarming day? I think that things would be a little mixed, and as a large number of swarms would be mingling together in the air at once, all that could be done would be to stand and gaze on them and wonder what to do next. I, for one, say that it is better for all practical bee-keepers to depend on swarming by division.

For the American Bee Journal.

Our Union for Defense.

JAMES HEDDON.

I have been highly pleased to see the Bee-Keepers' Union progressing so finely. It is gratifying to witness that the sentiment of bee-keepers regarding our rights and duties are unanimous. This sentiment and sympathy is grand, but it does not cover the whole ground. It must be backed up by dollars and cents.

Money is the equivalent of human exertion. It is the medium of exchange of the results of our efforts; strong efforts are being made against us, and we must meet them with stronger ones. Collectively we cannot make such efforts; we must meet them by hired effort; and every person who favors this organization and wishes to be protected by its strong wing, should not only send in his sentiment, but his $1.25. I hope that each person who favors this Union, and means to join it, will send $1.25 with his approval, receive the blank and forward his vote for permanent officers, to Mr. Newman, before Aug. 1. We should have at least 5,000 members by that date. I understand that voting for officers closes on Aug. 1.

All know that success in nearly every branch of apiculture depends upon promptitude of action, even more than method of action. In the matter of this Union, we have nothing to do with methods, as our Board of Directors will take care of that; our part is to act unanimously and *at once.* So true is it in our case, that "in union there is strength," that the cost and trouble to us is not a tithe of the advantages which we will gain. That is the way I see it.

As far as I am personally concerned, all is running smoothly. I am at "peace and good-will" with all my neighbors around both of my apiaries. I have taken pains, and have gone to the expense to so locate them as to leave little chance for even *imagined* annoyance from bees. Jealousy can have little to take hold of, in my own case; yet I am willing to be one of 50 or 100 bee-keepers to be drawn upon to any extent necessary, whenever one of our number is unjustly attacked. The successful, wide-awake apiarist will see the wisdom in the adage, "in times of peace prepare for war," as bearing upon the objects of our Union, so nobly begun and heartily endorsed. Step outside of apicultural literature, and it will be found that as business men we are considered nearly the "fag-end" of business classes; such, however, is not the case, and will be looked at differently when progressive apiculture becomes a little older.

Mr. Doolittle and Mr. Follett have mentioned the matter of pinning other matters to our organization, thus dividing our force, attention, and interest. While I do not for a moment impugn their motives, I feel quite sure that they thus make a mistake. Do not let us get our "missile" so cumbersome that we cannot wield it effectively.

Now that we are all nicely agreed upon the object of this Union, let us not "upset the dish" by impractical, side-issue attachments. We do not agree upon insurance or adulteration; many of us do not wish to insure at all, many others are already insured in one or more companies—both stock and mutual. Many of us believe that the best way to oppose adulteration is to keep still in voice, but to *act* by way of producing a nice article of well-ripened honey, and placing it on the market under our names, with directions for keeping and ungraining it, etc. Let us do one thing at a time, and do it well, and when this organization is formed, and stands a giant for the protection of justice, then will be the proper time to discuss and re-discuss these other projects about which we are so divided.

Let us rally to the Union at once, and let us remember that the $1.25 is the important part of our rally. When we have our report, about Aug. 1, it will and can only include those who have joined and *paid*. Let us show the world a rousing defense for the right.

Dowagiac, ♀ Mich.

---

*San Francisco Morning Call.

The Production of Honey.

STEARNS & SMITH.

Mark the bee ;
She, too, an artist is--a cunning artist—
Who at the root begins her golden work,
And builds without foundation. How she toils,
And still from bed to bed, from flower to flower,
Travels the livelong day !

Saxe thus refers to a little insect, whose labors in the Commonwealth of California result yearly in a product, the sales of which, at home and in foreign lands, aggregate hundreds of thousands of dollars. In the work of this "cunning artist" lie the means of support of thousands of people who are building up what may be termed one of the great industries of the State.

The honey-bee gives us a sweetmeat which all the art of the modern confectioner cannot equal. Unlike anything else of the nature of candy—not even excepting sugar or syrup—it is a food article in itself, the others being merely necessary adjuncts to some other article of diet. From time immemorial, back into the remotest ages of scripture, honey has held its position as an article of food; and while, perhaps, in this country it partakes more of the nature of a dessert dish—a sort of dainty to be eaten as one eats sauce or cake—still among the older nations of Europe and Asia it usurps, to a considerable extent, the place held by butter on our tables, and, it is safe to say, is more generally seen and used than butter, particularly on the continent among the peasantry and the poorer classes.

Honey is the saccharine juices of plants which the bee finds in the flowers. This is the base of honey; for while in the honey-sac of the bee it undoubtedly undergoes some modification, and its chemical character changes considerably; but still it, to a very great extent, retains the flavor, and to some extent the peculiar properties, of the plant from the flower of which it was taken. That this is so is proven, that by a microscopical examination different varieties of pollen are found; and the lens thus determining the plant, it is easy to guess pretty accurately from what vicinity came the honey. The color of the flower, and its being coarse or delicate, has much to do with the color of the honey. If the flower is one of delicate perfume, the honey will be of a much finer flavor, while if the bee sips from the flowers of the coarser species of plants, the honey will be noticeably poorer.

It is the fashion among dealers, when they receive a shipment of very white honey of fine flavor and delicate aroma, to label it "Orange-blossom honey," and thus get a fancy price for it. The amount of honey obtained by the bees from the blossom of the orange tree is, however, quite small, the fact being that by far the principal portion of the choice honey which enters this market is stored by the bees from the juice of the white sage, mingled, of course, though in much smaller proportion, with those of other plants; while honey gathered in districts in which the white sage, or some equally delicate flower, does not abound, is apt to be coarser in flavor, and much darker in color.

Comb honey is preferred by those who are able to expend some money upon their tables, because it seems more like honey when the comb is present than it does when it is not; but for the poorer classes, and for purposes of export, extracted honey is required.

A close observer would naturally inquire why comb honey is always worth in the market from 4 to 6 cents per pound more than the extracted. There is little or no labor necessary in preparing the former for market. There it is in the hive, and all that is necessary is to take it out, box it, and send it away; while with the latter there must be a large amount of labor in separating the honey from the comb. The answer is simple—it is all owing to the extractor. When the comb honey is removed from the hive, there is nothing left for the bees to work upon. In order to produce more honey, they must prepare the comb and cells to receive it, and this requires a very considerable amount of time. Therefore, quite an interval must elapse before there is enough honey to warrant another shipment; and besides, the hives must not be entirely stripped—a little must be left for the tenants to feed upon. The result of all this is to keep the crop down, although there are frequently seasons when comb honey is a drug in the market, almost invariably during years when the bees have had a long series of flowers, distributed through many weeks, upon which to feed.

Unquestionably, there is very much more labor necessary in preparing the extracted honey, but when the operation is explained, the reason for its being cheaper will be manifest. A comb is taken from the hive and a keen, thin-bladed knife passes over the surface and shaves off a slice of the smallest conceivable thickness. This opens every cell, however, and the honey is extracted, after which the other side is treated in the same manner, and there you have the comb with not so much as a cell destroyed, and yet all of the honey removed from them.

This comb is returned to the hive from which it is taken. The bees are not obliged to devote any time to making comb, for they have it before them. There is nothing for them to do but to, perhaps, repair the mouths of the cells a little, and then fly away over field and through orchard and garden after honey, or, rather, what will be honey after the little artisans and chemists finish with it. The same comb can be thus treated, and the bees not being delayed as they are when they are compelled to make comb, the farmer, with an extractor, can produce and ship to market double the amount of extracted that he can of comb honey, and consequently he can afford to sell it much cheaper.

After the bees has filled a cell with honey, it does not at once proceed to close the cell tight. It blocks the orifice so that none of the contents can escape, but leaves a hole for the purpose, it is supposed, of admitting the air and permitting some necessary chemical change to take place. When this has occurred, the bee closes the hole, and the contents are ready to be removed; and such honey can be kept for an indefinite period without its candying, while if it is extracted before this final act on the part of the manufacturer announces that it is perfect, granulation is almost certain to ensue. Solidified honey can be restored to the liquid state by immersing the can which contains it, in a kettle of boiling water; but after it is so transformed, it is of a darker color than before, and it will not be long before it will again resolve itself into the granulated form.

Nearly all the candied honey is bought in this market by exporters, principally for shipment to France and Germany, where it is generally worth fully double what it is here. The solid honey is preferred for export, for the reason that it can be bought for from 2 to 3 or 4 cents per pound less, and also that on the other side of the Atlantic the consumer seems to feel that because it is candied it is not adulterated, at the same time looking with suspicion upon the imported liquid honey, even though it be of the finest the State can produce. Whether it is because California flowers have a sweeter perfume than those which grow beyond its borders, and yield juices which produce finer honey than is found elsewhere, or whether it is owing to a more thorough understanding of the industrious little insect and its work, and how to handle its product, is left for wiser heads to discover; but certain it is that our honey has already established a reputation abroad which is growing better annually, and on account of which the demand for it is steadily increasing every year.

San Francisco, ⊙ Calif.

SELECTIONS FROM OUR LETTER BOX

Bees Destroying their Drones.—Wm. H. Graves, Duncan, ⊙ Ills., on July 15, 1885, writes :

From 41 colonies, spring count, I have had only 17 swarms—less than one-half; and they are now busy destroying their drones. Basswood is the fullest of bloom that it has been for years, and white clover has been plenty. It has been pretty dry for the past three weeks, and the bees have been able to work only in the morning and evening.

Dry Weather.—Chas. H. Green (250—160), Berlin,⊙ Wis., on July 11, 1885, writes:

Bees are very strong in numbers, but they are not storing much surplus yet, the weather having been too dry; but we have just had a glorious rain, and I think that we will get a good average crop yet.

That Bee-Keeper's Staff, etc.—H. L. Zwiener, Blooming Prairie,♀ Minn., on July 10, 1885, says:

I am a beginner in practical bee-keeping, and I am willing to help defend the bee-keeper's rights in every respect, or at least so far as I am able. I heartily endorse Mr. Darby's proposition on page 411, and I think that such a move would prove very beneficial to the entire bee-keeping fraternity. The bee-keeper's staff, as described by Mr. Andre, on page 295, is an entire success. I have had 17 swarms issue this summer, and have not failed once in getting them to cluster nicely on the staff. Mr. Andre deserves thanks from every one who keeps bees, for making his discovery public. Those who have not yet tried it would do well in doing so; for it certainly saves a great deal of labor and inconvenience. I wish to thank Mr. Andre. I put 8 colonies of bees into my cellar last fall, and they came through the winter safely, and were quite strong in the spring. I bought 12 more colonies in the spring, which were weak, but I built them up as fast as circumstances would permit, and they are all in a fair condition now, and honey is coming in fast. I have so far increased my apiary to 33 colonies by natural swarming.

Hiving Swarms.—Dr. D. C. Spencer, Augusta,←○ Wis., on July 10, 1885, writes:

I allow each of my colonies of bees to swarm naturally, at least once. I have tall trees near the apiary, and hitherto the swarms have given me much trouble by clustering very high on inaccessible limbs, and on the bodies of the trees; but now having made myself a "bee-keeper's staff," such as described on page 295, by Mr. J. H. Andre, I no longer have any difficulty in that line. It was a perfect success on its first trial, and I have no failures with it. I most heartily recommend the "staff" to all the bee-keeping fraternity.

Bees Ready for the Harvest.—S. I. Freeborn, Ithaca,♀ Wis., on July 15, 1885, writes:

The condition of my apiary to-day is, that 160 of the 180 weak colonies have grown strong enough so that the upper stories for extracting, have been added. They have also furnished bees for 130 nuclei colonies, most of whose queens will be laying this week. Basswood is just opening, and if we can have good weather while it lasts, the misfortune of the winter of 1884-85 will be retrieved.

Bee-Bread, Wintering Bees, etc.—James Heddon, Dowagiac,♀ Mich., says:

I wish to say to Prof. Cook that of course I knew that my bees had consumed a 25-pound sack of flour in five hours, and that they put it in the cells in the form of bee-bread; but that is only an exception. I did not know that it was ever made of "the spores of fungi." I think I spoke practically correct, when I said that it was "always pollen." Mr. Ira Barber has my thanks for the plain out-and-out way in which he tries to help us in the wintering problem. He does not, however, seem to understand me. I do not wish to mix honey and pollen in the combs, but in the same cells. I believe that if the liquid food of bees, during winter, be replete with nitrogen, a fecal accumulation will result, no matter how warm the repository may be kept. Again, I did not have reference to specking the hives in confinement, but my bees did not discharge at all, when put out for their first flight. I shall be pleased to meet Mr. Barber, as well as many others of the fraternity, at our Detroit Convention, and discuss this and many other questions in a place and manner that will hold us right to the point, and a clear understanding of each others views. I trust that we will part wiser and better acquainted.

Bees Doing Better.—G. M. Doolittle, Borodino,⊙ N. Y., on July 11, 1885, says:

Bees are doing some better now, and a few colonies have commenced work in the sections. Basswood blossoms are the very earliest to open, and the next 3 weeks will tell the story for 1885 in this section.

Sweet Clover. — N. H. Rowland, Keene,⊙ Ky., writes:

I send you a plant to be named, as I have never before noticed anything like it. During the middle of the day the numerous bees, flies, and other insects, which visit a little patch of it, 30 or 40 feet square, almost present the appearance of a swarm. The seed was sown by an Italian, who does not know the name of the plant.

[It is Melilotus alba—sweet clover—and an excellent honey-plant.—Ed.]

Bees Destroyed by a Cyclone.—Mrs. S. C. Tyler, Utica,♂ Mo., on July 13, 1885, writes:

I have not a good report to make, I am sorry to say. We had a cyclone here a short time ago which destroyed all the bees I had left; but not discouraged, I determined to try again, so a good neighbor made me a present of one of the largest swarms I ever saw, and I have begun at the bottom again. I would as soon do without my regular rations as to do without bees, I love them so. Every colony I lost seemed as sad to me as a funeral.

Poor Honey Season.—Wm. Bitzer, Wheeling,♂ W. Va., on July 9, 1885, says:

We are having a poor honey season; white clover is a total failure, caused by the drouth of last summer, and the intense cold of the past winter. Basswood—what few trees we have in this section—yielded immensely, and we will probably get a very small surplus.

Building Queen-Cells.—Maria Hawkins, Cedar Rapids,○→ Iowa, on July 9, 1885, writes:

On July 1 I put a swarm of bees into a hive in which the bees had died during the last winter, and the frames were filled with combs all ready for them to go to work. In some way their queen was lost, as they were brought a short distance from a neighbor's. They were very uneasy, and did not want to stay, but I closed the entrance to the hive, and the next morning I saw that they had concluded to remain, as they were very busy carrying out dead bees, and getting ready to keep house. On the fifth day I looked them over, and found three queen-cells, two of them were capped over, and the third had a larva in it nearly ready for capping. Now, can some experienced bee-keeper tell me where they procured the eggs and brood with which to fill those queen-cells? There was not another sign of brood about the hive, and but very little honey. On the next day I obtained a queen-cell from a neighbor, that was nearly ready to hatch, and inserted it in a frame of comb, and destroyed the queen-cell that was not capped over; and to day—the ninth day—I examined them and found that the queen-cell which I inserted, was hatched, but I failed to find the queen in the hive, and they are still making queen-cells, having four large ones all capped, and the fifth one commenced, and but very little honey in the hive. I am a novice in bee-keeping, and any information that I can gain from the experience of others, will be thankfully received.

Bumble-Bees. — Mr. Wm. Muth-Rasmussen, Independence,○→ Calif., writes thus:

On page 376, throughout the article on "Fertilization of Flowers by Bees, etc." is a curious error, no doubt committed by the translator, in that the words "drone" and "drones" are used a number of times where, I suppose, the original writer meant "bumble-bees." Am I not correct about it?

[You are evidently correct. The mistake was made by the translator, and overlooked by the proof-reader.—Ed.]

Sheep Driving Bees.—Dr. H. Besse, Delaware,⊙ Ohio., on July 11, 1885, writes:

I think that the Bee-Keepers' Union is just the thing we need. I am well pleased with the Constitution, and the officers nominated. We all know that there is strength in union, and that "doubtful things are highly uncertain." Who would have "thunk" it that a sheep could drive a flock of bees, and so worry itself that it would die six months after the adventure? Verily, verily, "truth is stranger than fiction." When I first read about the law-suit, I felt like laughing, but since thinking over the subject, I am led to feel more serious over the matter; for who knows what day some ferocious sheep may come along and drive my entire apiary (of 126 colonies) into some other man's yard, just for pure "meanness;" for this is just as likely to happen any day! or on any bright moonlight night! as the adventure with the sheep and bees for which our fellow-bee-keeper, Mr. Freeborn, is sued. I know whereof I speak, for I have kept bees and sheep for the past 45 years, and I know their habits.

Bee-Lawsuits, etc.—T. Frank King, Newville,♀ Pa., on July 9, 1885, writes:

I am in favor of the defense organization; it is a move in the right direction. I know something about this kind of malicious prosecution, as I was a witness in our county court a few years ago in a bee-suit. After examining five witnesses on the side of the plaintiff, the case was withdrawn, the defendant going to the expense and trouble of moving his apiary of about 30 colonies. It will be to the interest of all bee-keepers to enroll their names as members of the Bee-Keepers' Union. I have 52 colonies of bees; I lost 15 the past spring, with bee-diarrhea. The weather here has been very dry, and I do not look for more than half a crop of honey this season.

Feeding Honey from Depopulated Hives, etc.—W. K. Fulton, Aledo,⊸ Ills., on July 9, 1885, writes thus:

I wish to ask a few questions in regard to my bees. I lost over ¾ of them during the past winter and spring—most of them after they were taken from the cellar on April 1—and they left lots of clean white clover honey; they starved to death with their store-houses full. Why it is, is something I cannot understand. The most of those that died had the diarrhea. I have never fed any, always depending on their natural stores, and I have always been successful in wintering bees in the cellar, until the past winter. My cellar is dry, and well ventilated by a flue in the chimney. The bee-room is separated from the rest of the cellar by a brick wall, so that the bees were not often disturbed, except when I went purposely to see them. I extracted the honey left, and I do not know what to do with it, for I cannot sell it for table use, as there was enough of old comb to make it dark colored.

1. Will it do to feed it to the bees, when it is necessary to feed them?

2. Where is the best place to keep the extracted honey so that it will not get thin and sour? Would a dry cellar be a good place to keep it in?

3. Why is it necessary to feed bees when they have plenty of stores of their own?

4. When bees rob, do the robbers store the honey, or is it wasted?

5. I have never had any except the black bees, but I have been thinking of introducing Italian queens; if I make a success of it, can I keep my stock pure when there are bees kept within ¾ of a mile of my apiary?

I think that Mr. Heddon's plan to organize a national defense association should be taken hold of by all bee-keepers, whether large or small; and my plan is to send in the cash—promises do not pay attorneys' fees, and the best counsel should be had to defend the Freeborn case. The honey season in this locality was three weeks later than usual. The bees are doing well now. There have been but few swarms; last year we had too many swarms.

[1. Yes.

2. Yes; a dry cellar is a good place for it. It should be allowed to ripen, by leaving the bungs out, and covering the hole with wire cloth.

3. It is not necessary, unless you want to feed them sugar syrup for winter stores.

4. The robbers store it in their own hives.

5. If you purchase fertilized queens you may lose, unless your neighbors' drones prevent it, by visiting your apiary, which they will do, if not more than a mile away.—Ed.]

Severe Drouth.—S. Valentine & Son, Hagerstown,⊸ Md., on July 11, 1885, write:

The honey crop must be a failure throughout this country, as there is nothing for the bees to work on except some dried-up blue-thistle. We have had cold, dry, windy weather the whole season through, and the fields are almost destitute of any green vegetation. Never, to our recollection, have we had such a drouth, and unless it rains soon, the farmers will be compelled to use the little feed they have gathered, before winter comes. We have not heard of any honey being obtained. We have about 20 or 25 colonies that are working in the sections, but what the result will be we are not able to say now.

Basswood a Failure.—B. H. Standish, (80—125), Evansville, ♀ Wis., on July 15, 1885, says:

The white honey harvest is practically over here. I do not think that the surplus will exceed 5 pounds per colony, spring count. But little clover survived the winter, and basswood has not one blossom to 100 trees; the weather is cold and unfavorable.

Hope for a Good Fall Crop.—Jacob Emmons, St. George, ♂ Kans., on July 15, 1885, says:

My bees wintered well, but a dry spell following apple-bloom caused them to dwindle considerably, and I had to feed some. They appear to be doing fairly well now, but I have taken no surplus yet; I hope for a fall crop.

No Honey to Gather.—Smith & Morgan, Columbus,⊙ Wis., on July 13, 1885, write thus:

We have 300 strong colonies of bees, but we are getting no honey to speak of, and the prospects are that we shall not be able to supply our local demand. Last year, at this time, we had 4 tons of comb honey, against two boxes of 12 pounds each, this year. We have spread our bees out in 7 different yards, in the best localities that we could find, but there seems to be no honey to be had.

Prospects Not Encouraging.—C. H. Dibbern, (215), Milan,⊸ Ills., on July 15, 1885, says:

The white honey harvest is about over, and the result is that the yield is only about equal to that of last year. Early in June the weather was too cold, and colonies were too weak to store much surplus; July came with dry, hot days and cool nights, and prospects are not very encouraging. With less than one half the bees in the country, and considering the very moderate yield, honey ought to bring a fair price this fall. Bees have swarmed only moderately, and about two-thirds of my colonies have not swarmed at all. Unless we get rain soon the fall bloom will not amount to much.

The National Bee-Keepers' Union.

CONSTITUTION.

Article I.—This organization shall be known as the "National Bee-Keepers' Union," and shall meet annually, or as often as necessity may require.

Article II.—Its object shall be to protect the interests of bee-keepers, and to defend their rights.

Article III.—The officers of this Union shall consist of a President, five Vice-Presidents, and a General Manager (who shall also be the Secretary and Treasurer), whose duties shall be those usually performed by such officers. They shall be elected by ballot, and hold their several offices for one year or until their successors are elected and installed; blank ballots for this purpose to be mailed to every member by the General Manager.

Article IV.—The officers shall constitute an Advisory Board, which shall determine what action shall be taken by this Union, upon the application of any bee-keepers for defense, and cause such extra assessments to be made upon all the members as may become necessary for their defense.

Article V.—Any person may become a member by paying to the General Manager an Entrance Fee of ONE DOLLAR to the Defense Fund, and an annual fee of 25 cents, for which he shall receive a printed receipt making him a member of this Union, entitled to all its rights and benefits. The annual fee shall be due on the first day of July in each year, and MUST be paid within 30 days in order to retain membership in this Union.

Article VI.—Donations of any amount may be made at any time to the Defense Fund, in addition to the entrance and membership fees and the regular assessments made upon the members by the Advisory Board.

Article VII.—The Defense Fund shall be used for no other purpose than to defend and protect bee-keepers in their rights, after such cases are approved by the Advisory Board, and shall only be subjected to Drafts regularly made in writing by the Advisory Board.

Article VIII.—The annual fees paid by the members shall become a general fund, from which shall be paid the legitimate expenses of this Union, such as printing, postage, clerk-hire, etc.

Article IX.—Meetings of this Union shall be held at such times and places as shall be designated by the Advisory Board, or upon the written requisition of ten members.

Article X.—This constitution may be amended by a majority vote of all the members at any time.

LIST OF MEMBERS AT THIS DATE:

Anderson, Wm.,
Angell, C. S.,
Baldwin, B. T.,
Barnes, Wm. M.,
Baxter, E. J.,
Besse, H., M. D.,
Bitzer, Wm.,
Brickey, Peter,
Buchanan, J. W. & Bro,
Burton, L.,
Chapman, J.,
Cheney, H. H.,
Clarke, Rev. W. F.,
Connley, John T.,
Cook, Prof. A. J.,
Dadant, Chas.,
Dadant, C. P.,
Darby, M. E.,
Decker, A. A.,
Demaree, G. W.,
Dibbern, C. H. & Son,
Dickason, T. B.,
Dittmer, Gus,
Doolittle, G. M.,
Dunham, P.,
Dunn, John,
Eastwood, L.,
Feathers, Harvey,
Flanagan, E. T.,
Follett, Charles,
France, E. & Son,
Freeborn, S. I.,
Fulton, W. K.,
Funk, H. W.,
Furness, Dwight,
Green, Charles H.,
Grimm, Christopher,
Hatch, C. A.,
Havens, Reuben,
Hayhurst, E. M.,
Heaton, J. N.,
Heddon, James,
Hensley, J. P.,
Hettel, M.,
Hills, Mrs. H.,
Hilton, George E.,
Howard, J. B.,
Hoyle, George H.,
Huse, Wm. H.,
Hyne, James M.,
Jones, George W.,
King, T. Frank,
Langstroth, Rev. L. L.,
Le Roy, J. W.,
Ludkey, Charles,
Mallory, S. H.,
Marden, Henry,
Mason, Jas. B.,
McConnell, James,
McNay, Frank,
McNeill, James,
Miller, Dr. C. C.,
Miller, Henry,
Minnich, F.,
Minor, N. L.,
Muth-Rasmussen, Wm.,
Nelson, James A.,
Newman, Alfred H.,
Newman, S. M.,
Newman, Thomas G.,
Nipe, James,
Pennoyer, L. A.,
Powell, E. W.,
Pray, G. L.,
Rey, John,
Reynolds, M. G.,
Shapley, D. L.,
Shearman, J. O.,
Shirley, W. H.,
Smith, George,
Stearns, J. R.,
Stephenson, H. W.,
Stewart, W. H.,
Stolley, Wm.,
Theilmann, C.,
Thompson, Geo. M.,
Tinker, Dr. G. L.,
Tongue, L. N.,
Travis, F. W.,
Trimberger, John,
Vanhouten, C. W.,
Walton, Col. R.,
Webster, H. S.,
Wilkins, Miss Lucy A.,
Wright, W. D.,
Zwiener, H. L.

Convention Notices.

☞ The Cortland Union Bee-Keepers' Association will hold a basket picnic at the apiary of Mr. Miles Morton, at Groton, N. Y., on Tuesday, Aug. 18, 1885. All bee-keepers, with their families, are cordially invited to be present. W. H. Beach, *Sec*

☞ The Union Bee-Keepers' Association of Western Iowa will meet in Stuart, Iowa, on July 25, 1885, at 10 a. m.

M. E. Darby, *Sec.*

☞ The next meeting of the Northwestern Illinois and Southwestern Wisconsin Bee-Keepers' Association will be held at Rock City, Ills., on Aug. 25, 1885.

J. Stewart, *Sec.*

WEEKLY EDITION
OF THE
AMERICAN
ESTABLISHED IN 1861
OLDEST BEE PAPER IN AMERICA
BEE JOURNAL
PUBLISHED BY
THOMAS G. NEWMAN & SON,
PROPRIETORS,
923 & 925 WEST MADISON ST., CHICAGO, ILL.
Weekly, $2 a year; Monthly, 50 cents.

ALFRED H. NEWMAN,
BUSINESS MANAGER.

Special Notices.

Thos. G. Newman & Son will publish the AMERICAN BEE JOURNAL hereafter. The editorial department will be conducted, as heretofore, by Thomas G. Newman, and the business department by Alfred H. Newman. The firm will (as before the division, 5 years ago to-day), carry on the business of publishing the BEE JOURNAL, books and pamphlets, and keep for sale the usual assortment of bee-keepers' supplies.

☞ If your wrapper-label reads JULY 85, please remember that your subscription runs out with this month. Renew at once, so as not to lose any numbers.

The National Bee-Keepers' Union has been formed, for the purpose of defending the rights and protecting the interests of the bee-keepers of America. Every person interested in the pursuit should **at once** send for a copy of the Constitution, voting blank, etc., and become a member. Address "National Bee-Keepers' Union," 925 West Madison street, Chicago, Ill.

To Correspondents.—It would save us much trouble, if all would be particular to give their P. O. address and name, when writing to this office. We have several letters (some inclosing money) that have no name; many others having no Post-Office, County or State. Also, if you live near one post-office and get your mail at another, be sure to give the address we have on our list.

☞ For two subscribers for the Weekly BEE JOURNAL (or 8 for the Monthly) for one year, we will present a Pocket Dictionary, and send it by mail, postpaid.

☞ **Preserve your papers** for reference If you have not got a Binder we will mail you one for 75 cents, or you can have one FREE if you will send us 3 new yearly subscriptions for the BEE JOURNAL.

☞ Our rates for two or more copies of the book, "Bees and Honey," may be found on the Book List on the second page of this paper. Also wholesale rates on all books where they are purchased "to sell again."

Honey and Beeswax Market.

Office of the AMERICAN BEE JOURNAL,
Monday, 10 a. m., July 20, 1885.

The following are the latest quotations for honey and beeswax received up to this hour:

CHICAGO.

HONEY—This week has brought on the market some of the new crop, which is being held at 15c. per lb. for white comb. There is not any comb honey of the crop of 1884 worth mentioning here now. Extracted offerings are rather free; prices are unchanged—5@7c per lb.

BEESWAX—22c. for yellow.

R. A. BURNETT, 161 South Water St.

BOSTON.

HONEY.—We quote the following prices: Fancy white comb in 1-lb. sections, 16@18c.; the same in 2-lb. sections, 15@16c; fancy white California 2-lbs., 12@14c. Extracted weak, 6@8c. Sales very slow.

BEESWAX.—32 cts. per lb.

BLAKE & RIPLEY, 57 Chatham Street.

NEW YORK.

HONEY—We quote: Fancy white clover in 1-lb sections, 14@15c; fair to good white clover in 1-lb. sections, 12@13c; fancy white clover in 2-lb. sections, 13@14c; fair to good white clover in 2-lb. sections, 11@12c; fancy buckwheat in 1-lb. sections, 9@10c; fancy buckwheat in 2-lb. sections, 7@8c. Ordinary grades, no sale. Extracted white clover, 7@8c; extracted buckwheat, 6@6½c.

BEESWAX—Prime yellow, 26@29c.

MCCAUL & HILDRETH BROS., 34 Hudson St.

CINCINNATI.

HONEY—There is no change whatever in the market, which has been without life for some time. We have a good class of regular customers who use considerable honey, while outsiders can hardly be induced to purchase. We quote extracted at 4½@8c, and comb honey at 9@12c, on arrival.

BEESWAX—Demand is good and it brings 23@28 on arrival, for good yellow.

C. F. MUTH, Freeman & Central Ave.

SAN FRANCISCO.

HONEY—The market is quiet, there being no shipping demand and not much local trade. There are receipts of both old and new. One lot of 200 cases of old extracted arrived from San Jose. White to extra white comb, 7@9c; dark to good, 4@6c; extracted, choice to extra white, 4¾@5¼; amber colored, 4@4½.

BEESWAX—Quotable at 24@25c—wholesale.

O. B. SMITH & CO., 423 Front Street.

CLEVELAND.

HONEY—Is very dull just now during strawberry time, and although we hold at 14@15c per lb. best white 1-lb. sections, it is merely nominal, as there are no transactions. As soon as our people have satisfied their craving for acid fruits, they take very kindly to nice white honey, and we may look with confidence to a good demand in July, August and September.

BEESWAX.—Scarce at 28@30.

A. C. KENDEL, 115 Ontario Street.

KANSAS CITY.

HONEY—Small lots of new honey are beginning to come in, and fancy new comb brings a slight advance in the following prices: Choice ½-lb. sections, 15@16c; 1-lb., 13@14c; 2-lb., 10@12c. Extracted, new Southern, 5½@6c; California, 7c; new white clover, 8c.

BEESWAX—Weak at 25@30c.

CLEMONS, CLOON & CO., cor. 4th & Walnut.

I WILL SELL ITALIAN BEES in Shipping Box, with 7 Langstroth Frames of Brood for $5.00. Address,
29A1t **TOM PHELPS, Sonora, Ky.**

MOORE'S STRAIN OF ITALIANS!

READ:—"I never had as handsome bees and good box-honey workers as I have from you."—J. V CALDWELL.—Cambridge, Ills., Feb. 10, 1885. Warranted **QUEENS, $1** each, 6 for **$5.** Safe arrival by mail guaranteed. Address,
J. P. MOORE, MORGAN, Pendleton Co., KY.

"PRIZE QUEENS!"

ITALIAN QUEENS, tested, warranted, and fertilized, for sale at usual prices. Also Nuclei colonies, 2 frames each. Send for Circular. Dollar Queens ready to ship on one week's notice.
27D6t **E. L. BRIGGS,** Wilton Junction, Iowa.

Wooden Pails for Honey!

WE can furnish regular Wooden Water-Pails—well painted on the outside, and with 3 iron hoops and a tight-fitting wood cover, at **$2.25** per dozen. They will hold **25** lbs. of honey, and when empty, can be utilized for use as an ordinary household pail.
THOS. G. NEWMAN & SON,
923 & 925 West Madison Street, CHICAGO, ILL.

Dadant's Foundation Factory, wholesale and retail. See Advertisement in another column.

HONEY WANTED.

I **WILL PAY** the highest market price for **CHOICE EXTRACTED AND COMB HONEY.** Address,
A. W. PRESTON, Kansas City, Mo.
28A4t

Do you expect to go South?

ARE you in any way interested in the Farming, Stock-raising, Lumbering, or Mining interests of the SOUTH? Or are you going South for your health? If you are, why don't you subscribe for a good Southern paper? The

Blue Ridge Enterprise

gives reliable information about the Blue Ridge country of Western North Carolina—the finest section on the American Continent.

Published Weekly—only **$1.50** per year. Fifty cents in stamps will pay for the paper **3** months.

Address, **"ENTERPRISE,"**
28A4t WEBSTER, Jackson Co., N. C.

Cheap Sale of 2-frame Nuclei

2 FRAME Nuclei with Queen in Simplicity frames for $2.00; 2-frame Nuclei without Queen, $1.75. These are Hybrids, Italians and Blacks; I will let the Blacks go at $1.75 with Queen included. Every purchaser is entitled to ONE DOZEN of Peter Henderson's choice selected **BULBS** of Hyacinths and Tulips, all to be shipped in light boxes. Send money in registered letter. Satisfaction guaranteed or money refunded.
F. HOLTKE & CO., Carlstadt, Bergen Co. N. J.
27D2t

COMB FOUNDATION!

REDUCTION IN PRICE.

Until further notice, we will furnish Comb Foundation at **5 cents per pound less** than the prices quoted in our Catalogues. This is caused by the decline in the price of beeswax.
CHAS. DADANT & SON, Hamilton, Ill.
THOS. G. NEWMAN & SON, Chicago, Ill.

SEND POSTAL for Circulars of **BEES, QUEENS, COMB FOUNDATION,** etc., etc. Address,
G. H. KNICKERBOCKER, Pine Plains, N. Y.
23Dtf

1885.—QUEENS—1885.

ALBINO AND ITALIAN QUEENS,

producing workers to the BEST for purity, docility and industry. Write for Circular. Also have DOLLAR Queens.
22D4t **H. P. DEAHL, Berryville, Va.**

Bees and Queens

HAVING purchased all the black bees within a radius of 6 miles, I now claim the LARGEST ITALIAN APIARY and best location for rearing **FINE QUEENS** in the State. I will continue to sell warranted Queens at the low price of **75** cents each. Extra selected tested (1885 rearing) **$1.50** each. Three L-frame Nuclei, every frame filled with brood, with selected tested Queen, **$3** each.
Address JAS. WOOD, North Prescott, Mass.
29A9t

My 17th Annual Price-List of Italian, Cyprian and Holy-Land Bees Queens and Nuclei colonies (a specialty); also Supplies—will be sent to all who send their names and addresses. **H. H. BROWN,**
17Dtf Light Street, Columbia County, Pa.

New and Enlarged Edition

OF

BEES and HONEY,

OR THE

Management of an Apiary for Pleasure and Profit; by

THOMAS G. NEWMAN.

Editor of the Weekly Bee Journal.

It contains 220 profusely illustrated pages is "fully up with the times" in all the improvements and inventions in this rapidly developing pursuit, and presents the apiarist with everything that can aid in the successful management of the honey-bee, and at the same time produce the most honey in its best and most attractive condition.

PRICE—Bound in cloth, $1.00; in paper covers, 75 cents, postpaid.

☞ **A Liberal Discount to Dealers, by the Dozen or Hundred.**

☞ The Monthly BEE JOURNAL for a year and the bound book, "Bees and Honey," will be sent for $1.25.

THOS. G. NEWMAN & SON,
923 & 925 West Madison St., CHICAGO, ILL.

WARRANTED ITALIAN QUEENS!

NO Cyprian or Syrian Bees ever introduced into this locality. One Queen in May, $1.50; six for $7.50; after June 15, $1 each: six for $5. Send for our **48-page Catalogue**, describing everytbing needed by bee-keepers. Address,

18A13t **J. B. MASON**, Mechanic Falls, Maine.

WIN more money than at anything else by taking an agency for the best selling book out. Beginners succeed grandly. None fail. Terms free. HALLETT BOOK CO.
51A1y Portland, Maine.

---

60 New Style, Embossed Hidden Name and Chromo Visiting Cards, no 2 alike, name on, 10c., 13 packs $1; warranted best sold. Sample book, 4c. L. JONES & CO., Nassau, N. Y.
11A1y

DR. FOOTE'S

HAND-BOOK OF HEALTH,

HINTS AND READY RECIPES,

is the title of a very valuable book that gives a great amount of information, of the Utmost Importance to Everybody, concerning their daily habits of Eating, Drinking, Dressing, Sleeping Bathing, Working, etc.

IT TELLS ABOUT

What to Eat,
How to Eat it,
Things to Do,
Things to Avoid,
Perils of Summer,
How to Breathe,
Overheating Houses,
Ventilation,
Influence of Plants,
Occupation for Invalids,
Superfluous Hair,
Restoring the Drowned,
Preventing Near-Sightedness,
Parasites of the Skin,
Bathing—Best way,
Lungs & Lung Diseases,
How to Avoid them,
Clothing—what to Wear,
How much to Wear,
Contagious Diseases,
How to Avoid them,
Exercise,
Care of Teeth,
After-Dinner Naps,
Headache, cause & cure,
Malarial Affections,
Croup—to Prevent.

IT TELLS HOW TO CURE

Black Eyes, Boils, Burns, Chilblains, Cold Feet, Corns, Coughs, Cholera, Diarrhœa, Diphtheria, Dysentery, Dandruff, Dyspepsia, Ear Ache, Felons Fetid Feet, Freckles, Headache, Hiccough, Hives Hoarseness, Itching, Inflamed Breasts, Ivy Poisoning, Moles, Pimples, Piles, Rheumatism, Ringworm, Snoring, Stammering, Sore Eyes, Sore Mouth, Sore Nipples, Sore Throat, Sun-stroke, Stings and Insect Bites, Sweating Feet, Toothache, Ulcers, Warts, Whooping Cough, Worms in Children.

It will Save Doctor Bills!

Price only **25** Cents. Sent by Mail, post-paid.

THOS. G. NEWMAN & SON,
923 & 925 West Madison Street, CHICAGO, ILL.

Sweet Clover

— FOR —

BEE PASTURAGE.

IT MAY be sown on all waste places at any time, and will grow on any soil—in any climate. Price, 20 cents per pound; $2.75 per peck; $10.00 per bushel (60 lbs.)

THOS. G. NEWMAN & SON,
923 & 925 West Madison St., CHICAGO, ILL.

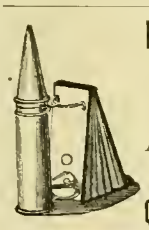
LOS ANGELES.

HOMES IN SOUTHERN CALIFORNIA.

"Stern winter smiles on that auspicious clime,
The fields are florid with unfading prime;
From the bleak pole no winds inclement blow,
Mould the round hail or flake the fleecy snow;
But from the breezy deep the bless'd inhale,
The fragrant murmurs of the western gale."
—Homer.

FULL information concerning the garden spot of the world, beautiful LOS ANGELES, THE LIVELIEST AND MOST PROSPEROUS SECTION OF THE PACIFIC COAST, furnished by the Los Angeles **Weekly Mirror** a mammoth 72 column PAPER, the best weekly in California SEND FOR IT. Single copy, three two-cent stamps; six months, **$1**; one year, **$2**.

Address THE TIMES-MIRROR CO.,
25A13t Los Angeles, Calif.



Bee-keepers' Supplies,

Standard Langstroth,

Quinby Standing-Frame,

And all other kinds of **Hives**,

MADE TO ORDER.

Quinby Smoker a specialty.

I shall supply anything you need in the Apiary end for Illustrated Price List.

W. E. CLARK, successor to L. C. Root,
A1y ORISKANY, Oneida County, N. Y.

$200,000 *in presents given away.* Send us 5 cents postage, and by mail you will get *free* a package of goods of large value, that will start you in work that will at once bring you in money faster than anything else in America. All about the $200,000 in presents with each box. Agents wanted everywhere, of either sex, of all ages, for all the time, or spare time only, to work for us at their own homes. Fortunes for all workers absolutely assured. Don't delay. H. HALLETT & Co.
51A1y Portland, Maine.

QUEENS by Return Mail!

AT THE FOLLOWING LOW RATES:

Bred from my **Best Strains** of **Italians** and **Albinos!**

Untested Queens		each	$ 1 00
"	"	½ doz.	5 50
"	"	1 "	10 00
Warranted	"	each	1 10
"	"	½ doz.	6 00
"	"	1 "	11 00
Tested	"	each	2 00
Selected Tested Queens		"	2 50

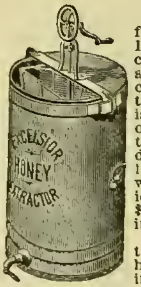
Descriptive Price-List free. Address all orders to

WM. W. CARY, - Coleraine, Mass.,
(Successors to Wm. W. Cary & Son.)

N. B.—On a single order for 50 Queens, we will give **10 per cent. discount** from the above list.
29Atf

EXCELSIOR

HONEY EXTRACTORS



In answer to frequent inquiries for Extractors carrying 3 and 4 Langstroth frames, I have concluded to adopt these two new sizes. The 3 frame basket is in a can of the same size and style as the 2 frame. The 4 frame basket is in the larger can, with the cone or metal standard for the basket to revolve upon, leaving room underneath the basket for 75 or 80 lbs. of honey. It will be complete, with covers, and in every way identical, except in size, with the $16.00 Extractor, 13x20, which is intended for any size of frame.

Excepting with the $8.00 Extractors, all the different styles have strainers over the canal leading to the honey gate, and movable sides in the Comb Baskets. The $8.00 and $10.00 Extractors have no covers.

For 2 American frames,		13x13	inches	$8 00
For 2 Langstroth	"	10x18	"	8 00
For 3 "	"	10x18	"	10 00
For 4 "	"	10x18	"	14 00
For 2 frames of any size,		13x20	"	12 00
For 3 "	"	13x20	"	12 00
For 4 "	"	13x20	"	16 00

THOS. G. NEWMAN & SON,
923 & 925 West Madison Street, CHICAGO, ILL.

Re-Written and Enlarged! Third Edition of the

BEE-KEEPERS' HANDY BOOK

300 pages and nearly **100** fine illustrations. Price by mail, nicely bound in cloth, **$1.50** per copy. Book and tested Queen of any race, by mail, $2.50. Book and sample Drone and Queen Trap, by mail, $2.00. Our Queens cannot be excelled for beauty, purity, mild disposition, honey-gathering and wintering qualities. All my Queens are reared at the "Api. bee-farm." Send for prospectus and price list.

22A16t **HENRY ALLEY, Wenham, Mass.**

Send for "OUR HOME FRIEND,"

An 8-page, 32-column Semi-Monthly.

IT IS just the paper you need, as it contains an **Agricultural, Household, Young Folks, Temperance, Religious** and **Miscellaneous** department. Only **50** cts. a year, and will be sent **3** months ON TRIAL to the readers of the BEE JOURNAL for only **10** cents. General and local agents wanted. Address,

"OUR HOME FRIEND,"
26A6t Loudonville, Ohio.

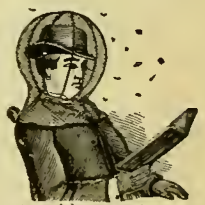
W. Z. HUTCHINSON,

Rogersville, Genesee Co., Mich.,

Is now making a specialty of rearing **FINE ITALIAN QUEENS**. All Queens reared from the purest and best of mothers, and the cells built in full colonies. No Queens sent out that would not be used in the home yard. Single Queen, $1.00; six for $5.00; twelve or more, 75c. each. Tested Queens, $2.00 each. We can furnish White Poplar **SECTIONS**. Make Money Orders payable at Flint. 16Atf

---

A NEW BEE-VEIL.



There are five cross bars united by a rivet through their center at the top. These bars are buttoned on to studs on the neck-band. The bars are of best light spring steel; the neck-band of best hard spring brass; the cover is of handsome light material. It is very easily put together, no trouble to put on or take off, and folds compactly in a paper box 6x7 inches by one inch deep. There would be no discomfort in wearing it either day or night, and the protection against Mosquitoes, Flies, Bees, Gnats, etc., is perfect. The weight of the entire Veil being only five ounces. **Price, by Mail or Express, $1.00.**

Special discount to dealers, on ½ dozen or larger quantities.

THOS. G. NEWMAN & SON,
923 & 925 West Madison St., CHICAGO, ILL.

ble, and is as follows: Rear the queens now and introduce them to 3-frame nuclei; when 3 or 4 days old, take them to a locality where there are no bees within 2 or 3 miles, or even a mile will answer; take along a strong nucleus containing a lot of selected drones and a quantity of unsealed brood; place strips of wood between the top-bars of the frames, and then wedge up with a thin wedge on one side, which will let in enough air at the top. The entrance, which is simply a one-inch auger-hole, is covered with wire-cloth. So prepared, I place 20 or 30 in a lumber wagon containing a little hay in the bottom; they may be transferred thus with safety, 5 miles or so, in the evening. After 10 days, they may be hauled back with the certainty that 9 out of 10 are mated as desired."

CORRESPONDENCE.

Explanatory.—The figures BEFORE the names indicate the number of years that the person has kept bees. Those AFTER, show the number of colonies the writer had in the previous spring and fall, or fall and spring, as the time of the year may require.

This mark ⊙ indicates that the apiarist is located near the centre of the State named: ♁ north of the centre; ♀ south; ⊸ east; ⟜ west; and this ♂ northeast; ⦦ northwest; ⦣ southeast; and ⚲ southwest of the centre of the State mentioned.

For the American Bee Journal.

SPIDERS AND EMPTY COMBS.

Spiders are one of the Bee-Keepers' best friends to preserve empty combs from the Ravages of the Bee-Moth.

REV. L. L. LANGSTROTH.

Never since the introduction of movable frames has there been, in our country, a greater mortality among bees, than during the last winter and spring. Before the use of these frames, to most bee-keepers such losses were irreparable. How often by natural swarming did the old-fashioned bee-keeper, when a few good seasons came in succession, make such a success in the business, as convinced him that a given sum of money invested in bees, paid better than anything else? But sooner or later comes the bad year—when most, and perhaps all of his colonies are lost—his golden dreams vanish, and in most cases he abandons the pursuit in disgust, having nothing to show for his investment but some empty hives, extra nice indeed for kindling wood, and some combs of value only for their wax. Was he one of the kind who have little use in their vocabulary for the word failure? Being able to make but little if any use of his old combs, he painfully waited upon the seasons, and unless he had in him the making of another Quinby or Grimm, he could only hope to build up his apiary again, if favored by a succession of favored seasons.

We have had some very calamitous seasons since movable frames began to be extensively used, but by those who know their business, how quickly are such losses repaired. Although not very often referred to, this power of speedy recuperation is one of the greatest benefits which come from the control of the combs. Nearly every empty comb can be utilized for the bees, especially since the era of sending queens by mail and purchasing bees by the pound: and even if he has lost all his colonies, no one need call himself a bankrupt bee-keeper, but in a single favorable season may hear again the cheerful hum of industry in hives no longer desolate and silent. The change so speedily effected seems almost like a resurrection of the dead!

But it takes *time*, even with the best management, to secure such results, and just here comes a new element which *must* be taken into account. Nothing is so acceptable to the bee-moth as combs with no bees to protect them; the older the combs, and the better in all respects for the bees, the better too for the moth, and the great question is, how with the least trouble can these empty combs be saved? Hang them up in some light and dry place, carefully separated so that they nowhere touch each other, and sulphur them from time to time. Most of you know by heart this old, old story, and many of you only to neglect what requires so much care and never waits upon any procrastinator. You need not be told that eternal vigilance is the price which *must* be paid if we would save empty combs for the bees.

Columella said nearly two thousand years ago: "This business [bee-keeping] demands *maximam fidelitatem* [the greatest fidelity], which since it is the rarest of qualities," etc. It is just as hard to find it now as then, but we never needed it more, and I proceed to tell those who are conscious that they are weak in this matter, how "without money and without price" they may secure it. The facts which I shall now give are recorded in my private journal, and have been often told to bee-keepers, some of whom will, no doubt, remember them as given by me many years ago. Within a year or two my methods have been given in part to bee-keepers by some German apiarist—and how much do we owe to our German friends, among whom Dzierzon stands first.

I extract now word for word from my Journal, Vol. I, under date of July 8, 1864:

> "*Spiders* I count as friends. Last season I put away small frames of comb under a box, and the spiders kept them free from moths; this year I had a number of hives with combs, but no bees, and they have guarded them *well!* Where a spider has her web, there it will be safe to keep empty combs."

I will now explain more fully how I came to find the spider's value to the bee-keeper. A nucleus with a choice imported Italian queen, was placed on an empty box-hive laid on its side upon the ground, with its cavity facing the north, to protect its contents from the sun. In this cavity I put quite a number of frames with choice combs to be given from time to time to the nucleus, when frames of brood for queen-rearing were taken from it. I expected that some at least of these combs would be visited by the bee-moth, but examining each comb as I took it from the old box, I found no signs that they had injured them. This surprised me much, until I saw, when I came to the further end of the box, *a spider's web* with its occupant and many proofs of the kind of work that had been done—(all unknown to me)—in the shape of skeletons of bee-moth and other insects suspended in that web.

It was not until the next year that I reaped any great benefit from seeing the handiwork of this spider. Dec. 30, 1863, the weather at Oxford, Ohio, was quite mild for a winter day, the mercury ranging at about 42°, the day being misty and threatening rain. At 5:30 p. m. my thermometer was 42°. The wind began to rise, and at 6:30 p. m., the record was 32°; 7:30 p. m., 22°; 10:30 p. m., 8°. Jan. 1, 1864, 7 a. m., 16° below zero, with a gale of wind. What soldier who camped out that day will ever forget it? In our apiary were many weak colonies, wintered only because we could then sell every tested queen we could spare in the spring, for from $10 to $20. Nearly every one of these weak colonies was dead when I examined them after nearly two weeks of unusually cold weather. The hives with their empty combs were piled up against the north side of the barn, and shut up only enough to exclude mice. It was quite late in the spring before my health allowed me to give them any attention, and my son was absent in the army. But I was able to use every comb in my various operations. The spiders had taken possession of them, and the bee-moth had no chance. Had I closed the hives so tightly that the moth could not have got in them, I should in all probability have lost most of the empty combs. The odor of such hives attracts the moth, and if she cannot enter them, she will lay her eggs in the most convenient cracks and crevices for her progeny to get access to their proper food. It is much easier for a spider to entrap the moth, then it is for her to catch her larvæ when once they have burrowed into the combs? I prefer, therefore, to give the moth the freest possible admission, consistent with excluding mice, to all hives with empty combs.

Solomon says: "The spider taketh hold with her hands, and is in king's palaces." And she is very fond of making her hunting grounds in the combs of our queen's palaces when no longer under the protection of the bees! But we need trust nothing, even to her alacrity to *volunteer* in our service. In our barns and woodsheds can always be found in autumn and early spring a supply of those white bags in which the provident mother so nicely tucks up, as in the softest silken cradles, her eggs to be developed in due time by the increasing warmth of the season. Put a single one of these so-called "spider bags" into each hive with empty combs, and be no more anxious about them—you have got "without money and without price" that vigilant fidelity so indispensable in this matter. The spider is now your very good friend. She mounts guard over your combs, and will protect them from the moth until the last one has found its proper place with your bees.

I regret that this information was not given long ago to the bee-keeping world. It was intended to appear years ago in the revision which I hoped to make of my work on the "Hive and Honey-Bee." I specially regret that I could not give it last spring when it would have been of so much greater service. But it is only within a very short time that I have recovered sufficiently from my old head trouble to take any interest in bees, or to write on any thing connected with them. With gratitude to our Heavenly Father, "who forgiveth all our iniquities, and healeth all our diseases," and with hearty good-will to all bee-keepers at home and abroad, I sign myself their friend.

L. L. LANGSTROTH.

Oxford, Ohio, July 1, 1885.

N. B.—July 7, 1885. I have just taken from a loft over my woodshed some old combs of the kind that the moth loves, and that have lain there in an open nucleus box since 1874! They have not been molested, and the spider webs adhering to them tell *in short* the whole of this long story. L.

[The foregoing article was put "in type" on July 8th, but it was "withheld" till now by agreement with Mr. Langstroth, and proofs were sent to him, so that it might appear simultaneously in several bee-papers.—ED.]

For the American Bee Journal.

Making Honey—Good Honey Season.

C. THEILMANN.

Every bee-keeper in the land should help to create light to disperse the darkness which prevails in a large majority of people who are not acquainted with the honey-bee and its work. I have just read the following in the *Acker and Garten-bau Zeitung*, of Milwaukee, Wis., for June 15, 1885:

"A mercantile house in Boston makes artificial honey, also the comb, and brings it into market for prime American honey. The combs are made of paraffine wax, and the honey is a mixture of very thick glucose and a little good honey. The mixture is filled in the cells and sealed up by passing a hot iron over the cells. A large quantity of this product has already been shipped to Europe."

Such a statement as the above is more serious than funny to the honey-producers, as it will do their business great injury. This has undoubtedly resulted from Prof. Wiley's lie, and he should be prosecuted for it, which is probably the only way to stop its circulation in the newspapers, and at the same time enlighten the public and the editors who copy such ignorance. It is altogether impossible to seal a honey-comb with a hot iron to make it look anything like the sealing of the bees. I would like to see the person or machine that can make the comb.

We have had very fine weather for bees since May 12, and for the past two weeks white clover has yielded well. The basswood trees are just beginning to open their buds, which look healthy, and are heavily laden. Swarming has been lively for the past ten days, nearly all of my colonies having swarmed once, and that is all I want to have them swarm. Most of the new colonies are working in the boxes on the old stands.

Theilmanton, Minn., July 7, 1885.

[They locate this stupid *lie* alternately in Chicago, New York, and Boston—anywhere to give it a new start at rolling.—ED.]

For the American Bee Journal.

Is the Pollen Theory Proven True?

S. A. SHUCK.

The arguments presented in favor of the "pollen theory" are too indefinite. Mr. Heddon's experiments are the only features in this discussion that appear as facts in favor of this theory; yet, to the careful reader, these apparent facts are only circumstantial proofs of the pollen theory, and simply demonstrate a self-evident fact—that bees cannot discharge pollen when they eat none.

It has been claimed that pollen is the cause of bee-diarrhea, because it contains nitrogen. Mr. Heddon, on page 393, evidently refers to this, where he defines nitrogen as "bee-bread;" and where he requests me to get all the nitrogen (pollen) out of my bees and combs before trying my "diluted-syrup-feeding experiment." But when we take into consideration Mr. H's third statement—"all diarrhetic excreta is mainly pollen"—we have nitrogen represented as being pollen or bee-bread, which is too gross an article to be represented as nitrogen.

If the advocates of the pollen theory wish to have it understood that the nitrogenous element of pollen is the basis of their theory, well and good; if they wish it understood that pollen, from its coarseness as an element of food, is the cause of bee-diarrhea, all right; or, if they wish to combine these two features, there will be no objections, but let us not have this matter "mixed up" any longer.

It has never been shown that nitrogen is in any way deleterious to bees, and until it is so proven, this nitrogenous plea will appear to be a sort of hallucination and not argument. While Mr. Heddon has thought it expedient to define bee-diarrhea in certain directions, there has been no line drawn prescribing the diarrhetic condition as it approaches a normal or healthful discharge, thus leaving the impression that all excreta containing pollen is of a diarrhetic character. In fact, Mr. Heddon's third statement, "all diarrhetic excreta is mainly pollen," tends to show that the more pollen the more positive the case of diarrhea.

One of the most formidable features in opposition to the pollen theory, and especially opposed to the supposed deleterious effects of the nitrogenous element found in pollen, is that many colonies wintering on natural food, and in as fine condition as the very best, show a larger per cent. of pollen in their excreta than those suffering most severely from diarrhea. The excreta of bees wintering in such fine condition, is nicely illustrated by Prof. Cook, on page 391 of *Gleanings*. The indefinite situation of the "pollen theory," thus shown, leaves it too much like the scriptural illustration of the "house built upon the sand."

I see no features in Mr. Heddon's argument, in reply to my article on page 362, that cannot be met fairly and easily; but such contention is only a battle of words, and requires too much time and space to accomplish the desired end. As it is my intention to present sufficient facts and arguments in this article to *crush* the pollen theory as it now stands, I will omit any further consideration of Mr. Heddon's reply to me, more than is necessary to make this article clear to the reader.

For myself, or any one, to argue that because bees have been wintered in any and all kinds of receptacles, situations and weather, proves or disproves the pollen theory, is simply begging the question. But if I can show that large apiaries are being wintered on natural stores, one year after another, and that, too, in communities where from 50 to 75 per cent. of the bees of other apiaries are lost, during severe winters, I wish to ask, what more is necessary?

The pollen theory is represented as being substantiated by the various arguments and experiments of its advocates who claim that pollen is the prime cause of bee-diarrhea, while other features are represented as being secondary causes, hastening the deleterious effects of pollen; thus virtually holding the position that the escape from bee-diarrhea where bees are retained on natural stores, is purely accidental, and that bee-diarrhea is the inevitable result sooner or later. Such a position is substantiated when there cannot be a single instance of successful wintering on natural stores found on record; and it cannot be substantiated sooner than this, from the fact that a single instance of successful wintering from year to year, divests all opposing arguments and experiments of their intended virtue, by holding all the truths within its own grasp. This single instance of successful wintering, simply shows that all the requirements of success are met; and the successful wintering of one thousand or ten thousand apiaries would not add a single truth, more than to show that all had met the same conditions.

Mr. W. Z. Hutchinson, on page 309 of *Gleanings*, says: "Well, my friends, packing or something, has again enabled 'Cyula Linswik' and her sister to successfully winter their entire apiary of 61 colonies. Please do not say it is locality, because nearly all the other bees in that vicinity are dead." On page 373 of *Gleanings*, Mr. A. H. K. Blood, of Massachusetts, says: "Our home apiary has wintered as usual, without loss. . . . In the past ten years we have lost bees twice. One winter they had a short supply of honey, and as we were away from home, about one-fourth of them starved; at another time we tried to winter several small colonies which should have been united. These two experiments are all we need." On the same page of *Gleanings*, Mr. H. R. Boardman, of Ohio, says: "My bees are in a prosperous condition. . . . I have three large apiaries to care for and look after, with at present but one assistant; this I am sure will be a sufficient apology for not trying to add one more to the voluminous list of articles on wintering. Yes, I wintered my bees in spite of honey-dew. Not only had I thousands of pounds of it in the winter stores, but I fed up several colonies upon it after taking away every thing and giving them only empty frames or foundation, and these without exception wintered in perfect condition as well as the very best."

I mention the above three instances of successful wintering because they are convenient and to the point, and are widely separated from each other, embracing both out-door and in-door wintering; (many more could be mentioned). Some apiarists have boasted of their success with only sugar syrup; in the face of the foregoing statements, the instances of wintering on sugar stores only show that such apiarists have met the conditions necessary to successful wintering, and their success does not add one whit in favor of the "pollen theory." Instances like those mentioned above, cannot in the least be considered accidental, embracing a period of years which includes at least two (1880-1 and 1884-5) of the most disastrous winters on bees on record.

Notwithstanding Mr. Heddon's statements in reply to my article, "they come through the winter in nice condition, with almost no air at all," and "they die of diarrhea, in dry repositories, with the best of ventilation," we find that those who winter bees with a success unprecedented by any of the advocates of the "pollen theory," do so by securing to their bees an abundance of ventilation. Mr. Boardman puts his bees into winter quarters, without bottom-boards to the hives, about Nov. 15, and takes them out about April 15. The success of this well-known apiarist, during the past winter of unparalleled severity on bees, with the poorest of all stores, (if we except glucose), and his hundreds of prosperous colonies set at naught the last vestige of experiment and argument in favor of the "pollen theory," and severs the last thread of truth in its support; thus crushing at a single blow, a theory that has cost the bee-keepers of America hundreds of dollars, occupied space enough in our most prominent apicultural periodicals to constitute a volume larger than any work extant on apicultural science, and for the glory of which eminent men in the science and art of apiculture have clamored. Bee-keepers, I am sorry, but "truth *must* and *will* prevail."

Liverpool, ♀ Ills.

American Agriculturist.

Management of Bees During August.

L. C. ROOT.

Bee-keepers are liable to make a mistake at this season, either in supplying their colonies with surplus boxes, or extracting honey too late. We should keep in mind the conditions of successful wintering. I am fully convinced that the cause of the heavy losses in bees during the winter, may be found in the conditions produced by securing too large a yield of surplus honey, and too little attention to proper preparation for wintering. The gain in quantity of honey secured is much less than the resulting loss sustained in bees. If the colonies store late in the season, more honey than is required for wintering, the combs containing it can easily be removed, and preserved for use when needed in the spring. This late-gathered honey, which is usually of poor quality, if properly used, will be found, as a rule, to be worth more to the bee-keeper than will be realized for it when sold. Much might be written upon the great need of obtaining less honey than usual, and the importance of making every effort to produce only that which is fine in quality, and in the best marketable shape.

The honey market has become much unsettled; this is largely the result of a great effort on the part of bee-keepers to secure large yields of poorly cured honey, both in the extracted form and in the comb, partly sealed in scantily filled boxes. What the honey market of the future is to be, will depend greatly upon the action of the bee-keepers. We must first perform our own part well in producing a standard article, after which we may make reasonable demands of the trade. Having brought our products up to a proper standard, let us make suitable effort to bring them into notice. Well arranged exhibits at our county Fairs will do much towards establishing a profitable home trade, which is of great importance to every bee-keeper. We have injured ourselves by neglecting to create such a home market. The custom of sending our honey from all quarters to the New York market, has done more to injure our industry than any other one thing. If every bee-keeper would realize the truth of this statement, and do his part in establishing a home trade for a higher grade of honey, we should soon have as firm a market for our various products as do producers in other branches of agriculture.

Mohawk, δ N. Y.

For the American Bee Journal.

Wind-Breaks for Apiaries.

W. H. STEWART.

On the evening of July 8, a terrific wind-storm passed through a portion of our county, doing much damage to buildings, fences, orchards, etc., and among other damages done, we are informed that "Mr. J. C. Hatch had all his bee-hives turned over, and fences and orchard entirely blown down."

I have kept bees several years where I now live, on quite a high knoll, and exposed to the northwest winds that sometimes come very heavy; I have always been fearful that my hives would be blown over, and my bees ruined, and for this reason I have kept several heavy stones on the hives, which I must lift off and on again, every time that there is anything done with the bees. This makes much hard work, especially for an old man who is somewhat crippled with rheumatism; and many times it has made my poor, old, lame back amost cry.

I am not informed whether Mr. Hatch saved any of his bees or not, but it does seem to me that a wind that would turn over a hive would keep it rolling until all the combs would be mashed, and the colony completely ruined. Because of this danger, I have tried to devise some plan to hold the hives firmly, without the use of those heavy rocks; but I failed to hit on anything as yet, that appears like much of an improvement. Cannot some one give in the BEE JOURNAL a cheap, practical and effectual plan? I have sometimes thought of building a tight board-fence on the west side of the hives, but my yard is only 132 feet wide, and it would be necessary to build several of these wind-breaks running parallel with each other, to accommodate or protect all the hives, which make several rows across the yard.

I work my hives on the "tiering-up plan," as I like to have the honey remain in the hive until it is all capped over and well cured; I get a much better quality of honey in that way. It is sometimes necessary to tier up the hives three, and even four deep, in order to keep plenty of empty combs in some sections, while the older honey is being capped in other parts. I find that during the basswood flow (which is now in its height) the bees store honey very rapidly if we give them plenty of empty combs, but if we give them no new combs until all they have are completely capped, the work of storing goes on slowly during the completion of the work on the one set of combs. The capping and curing can be done for many combs after the honey-flow slacks up a little. I work all for extracted honey. I think that working for comb honey is wasting much time and labor, of both ourselves and the bees.

My hives are the same depth as the Langstroth hive, and I now have some of them four stories high, and it makes me tremble every time we get a high wind, although I have 100 pounds of stone on them, and the hives full of honey. If they were blown over and rolled down the hill, it would ruin me, sure! I hope to read of some good plans in future numbers of the BEE JOURNAL, for protection of apiaries against the high winds.

Orion,♀ Wis., July 17, 1885.

For the American Bee Journal.

"Driving Bees," Empty Combs, etc.

J. H. ANDRE.

I have read in the BEE JOURNAL of several experiments in driving bees; some have succeeded well and and some have not. Now, let us take it for granted that the colony to be operated on is in a box-hive (if it was not, I suppose it would be divided), well filled with bees and honey; such being the case, if boxes are put on in two or three days they will be filled with bees. Take off the boxes and set them aside, holes down, so the bees cannot get out; smoke the hive, turn it over, place the new hive on top of it, and drum out the bees; put the new hive in the place of the old one, and move the old one away, putting back the boxes containing the bees. In doing it that way, the drumming may be thorough to make sure of the queen, and there will be enough bees in the boxes to take care of the brood, if they do not desert it.

It is an easy matter, with a little practice, to put foundation in a box-hive. Cut it the Simplicity or Langstroth size, half or three-quarters of an inch longer than the hive is wide, turn it up at both ends and one side, wax the hive well, place the first piece one inch from the side of the hive, pressing the turned part down solid, and place the next sheet 1½ or 1¾ inches from it. A wide, thin board held down straight and solid will help get the foundation in straight, and a thin narrow one well wetted will press the last pieces in.

Driven swarms usually have a laying queen, and a colony prepared for in this way will do well if driven late in the season. Cut two sticks that will just reach across the hive, press them down until they just touch the foundation crosswise, stick them fast and nail them through the outside of the hive.

USING EMPTY COMBS.

I used frames of brood to build up a weak, queenless colony, from a strong one that had been hived on full combs, and about the time the brood began to hatch, I examined it, and found it full of channels made by worms; it looked clean and neat with sealed brood on both sides when given to the weak colony. The eggs of the moth must have been in the comb when the queen laid the eggs. Of course the combs had been given poor care, but I supposed that they would be cleaned out before the queens would lay eggs in the cells containing them. If that is the way empty combs turn out, I want no more of them, but will prefer foundation. I notice a mistake in my article on page 440. The side-pieces of the frames should be 10¼ inches, and the hive is a hanging-frame hive; that is why the cross is put in.

SQUEEZING BEE-STINGS.

Mr. E. M. Coombs, page 444, is quite right about squeezing out the poison when stung by bees. I have practiced the plan for 20 years. If one gets out blood or water, no bad effects will follow; if the blood will not start, prick it at once and start it in that way. If it is on the back of the hand where it may be reached by the lips, suck it hard, and the poison will be nearly all drawn out. If this is practiced on some persons when stung on the face or neck, shutting the teeth on a small fold of skin will save much suffering, and perhaps in some cases it may save life.

Lockwood,♀ N. Y.

Prairie Farmer.

Sweet Clover, Storing Honey, etc.

MRS. L. HARRISON.

The linden is now in full bloom, and to-day the bees are holding high carnival. The dry, hot wind of yesterday was followed by gentle showers in the evening, during the night, and this morning. All nature is refreshed and adorned in holiday attire. The bloom of white clover will be prolonged by the recent rain, and sweet clover will stool out abundantly; the latter is greatly on the increase in this locality, and wherever it once gains a foothold, it is sure to be found blooming, year after year, when other flowers are scarce.

Bees now need very careful attention, and every effort ought to be made to have them secure as much white honey as possible. As fast as sections are sealed, remove them, lest their delicate whiteness be impaired by the travel of the bees. Every unsealed cell will leak, cause stickiness, and be an abomination to all who may handle the honey. Where one-pound sections are used, remove the sealed ones and put those nearly completed in their place. If the honey-flow slackens, do not enlarge the surplus space, but as fast as sealed sections are removed, and those partly filled put in their place, confine the bees to them; and thus, if possible, have them finished, for comb partly filled is of little value.

When honey is removed from a hive, put it where it will cure; if it is in moist cellars, it will get watery, ooze from the cells, and be a nuisance. After trying different rooms and cellars, I meet with best success in a hot, airy room. Some bee-keepers construct a room or house with the southern exposure of glass, to insure heat, and have it well ventilated. If the conditions are perfect, the honey will not ooze from the cells, but be dry and free from drip. Others again claim success in keeping honey in a cool, airy place. Localities no doubt differ in this respect, owing to the humidity of the atmosphere, and other causes not explained.

If bees having a queen are shut in a box, and put into a dark place for 48 hours, they will remain. In forming nuclei where frames of bees and brood are taken, the old bees return home, not leaving enough for the nuclei. A poor queen could be used in forming many nuclei, for as soon as the bees are located, she may be removed, and a queen-cell given them. The other day some bees were clustered on the outside of a hive, and wishing to form a nucleus, I took two diminutive frames of comb belonging to a hive, in which a queen had been imported, and dipped up a quantity of bees. I put these frames into the little hive with a sealed queen-cell, and shut them up in the dark in the cellar; after two days I set them outdoors where I wished them to stand, and the bees remained. When the queen is fertile and laying, she can be introduced into any hive where a queen is needed, giving them a queen-cell. Bees accept other queen-cells, even when they have queen-cells of their own.

Peoria,⊙ Ills., July 6, 1885.

For the American Bee Journal.

Direct Introduction of Queens.

S. SIMMINS, (75—100).

In all large apiaries, conducted solely as a means of profit, the point to be aimed at is, "How to perform all operations with the greatest economy of time, labor, and material;" hence in regard to one item in particular, which I have under consideration at present, the subject of queen-introduction, has been made a special study by myself for a number of years. The caging process retards egg-laying, and occupies too much time, especially where queens are shifted in the same yard. Feeling the need of some alteration, I experimented in several directions, but it was not until 1880 that I succeeded in establishing a system which enabled me to insert queens into any hive at the same operation the original one was removed, and no notice was taken of the change. The new queen was inserted on a comb of honey and brood, surrounded by a number of her own attendants, and the plan was suggested to my mind by the fact that two or more colonies could be safely united by intermixing their respective combs, while the bees remained clustering on them, when the one queen left by the operator, would be accepted as sovereign of all.

For two whole seasons I continued to experiment in the same direction, and out of a large number of introductions during that time, not one failure occurred. One queen was actually removed during 1881 to more than six different hives, so each turn she was accompanied by fresh bees. In other instances queens were exchanged by this "comb method," and no accident resulted. I therefore concluded to make the matter public, and described the method in the *British Bee Journal* for September, 1882, and on receiving the AMERICAN BEE JOURNAL for Dec. 13, 1882, I found that its editor had honored me by copying the article entire, and later (July 16, 1884) he gave an extract, probably from my pamphlet, which has been the means of inducing my one opponent here, to again assail my position, after he had already been allowed to have the last word. This gentleman has made a miserable failure in each of his attempts, and quoted from two correspondents of the AMERICAN BEE JOURNAL who had failed at their first trial, hoping thereby to strengthen his position; but his statements were such that in the following numbers of the *British Bee Journal*, several correspondents expressed astonishment at his failure, and each described how he had succeeded in following my practice.

Mr. A. Gresh, on page 521 of the BEE JOURNAL for 1884, was needlessly impatient because he failed once, and that at his first and only trial with a fertile worker colony. I assure him that so far I have cured every case of fertile workers, with no farther trouble than inserting a comb of brood and bees, with the queen parading unconcernedly among them. Mr. Gresh should not give up because of one failure; but "try again!" He will yet succeed, and then can tell us the plan is at least as certain as caging, while the time and labor saved is considerable. Permit me to make the same remark to Mr. E. A. Morgan, who, on page 588 of the BEE JOURNAL for 1884, stated that he was certain the process would fail. In three instances he failed, and is "satisfied that *no queen* was ever accepted in *that way* by a colony in a normal condition." He thus ignores the fact that I have succeeded with colonies under all conditions. Let him read the following statements by bee-keepers whose names are well known to him:

When reviewing my pamphlet in *Gleanings* for March, 1883, Mr. A. I. Root said that with one exception he had met with continued success by the same process. Again in that same periodical for 1884, page 805, Mr. O. O. Poppleton shows how he succeeded "24 times out of 26." Mr. Doolittle, on page 775 of the BEE JOURNAL for 1882, stated that he "did not lose one in twenty" by this plan. In the *British Bee Journal* for 1884, page 417, Mr. Joseph E. Pond, Jr., writes thus: "Others this side the water complain of failures in using the method; some of them being successful bee-keepers. It may be, however, that they made the attempt with no desire to succeed. However that may be, I have succeeded with it beyond my expectations, and for the life of me, I cannot see why any one can make a failure of it."

At the time Mr. Root received my pamphlet, he stated that the process was not by any means new, as he had used the same means of introduction. Again, it seems probable that the statement by Mr. Doolittle, on page 775 of the BEE JOURNAL for 1882, (though three months after my article in the *British Bee Journal*), was made while he was unaware of my own experiments, as it was not until the following issue that the letter, copied from the *British Bee Journal* of September, 1882, appeared.

When I first recorded my experience (September, 1882), I had seen no statements relating to this method of introduction, and, therefore, considered that I was the originator of the same, and so I called it "The Simmins' Method of Direct Introduction." However, as Mr. Root thinks differently, perhaps he, Mr. Doolittle, or some others will satisfactorily *prove* that the process had previously been *made public as a system*. Then I shall be willing to withdraw my own name, and call it, say, "The comb method," or as otherwise may be corrected.

Though some few have failed, and these at first attempts, I am convinced from my own experience, and the evidence of prominent bee-keepers given above, that so far no better plan of introduction has been offered, considering that not a moment of time is lost, while frequently the queen is so little disturbed that she continues her duties throughout the operation.

As it is my wish that all who desire to try shall succeed as well as I have done, I append the following: In manipulating, use smoke as under ordinary conditions; not on any account to excess. Never handle the queen, or cause her to become restless by any carelessness on your part. The comb to be inserted with queen and bees, should not be taken from one part of the apiary to another openly in the hand; nevertheless let it be carried in a nucleus hive, or comb-box having no lid, so the bees may be exposed to the light and air. The colony to receive the queen should first have its combs parted to give ample room to insert the queen-comb without crushing, or the bees "brushing" each other; let the whole surface of the frames be exposed to the light while obtaining the nucleus, then insert the same and close the hive at once. When no honey has been coming in, feed over night the colonies to be operated upon.

With regard to a queen, with attendants received from a distance, let them stand for a day or two near the full colony before being united to it; and in the case of a queen with few attendants and no combs, place such on a comb of hatching brood in a warm room, at first confined, and later, stood out as before. The comb of the brood to be taken, by preference, from the hive the queen is to preside over; the original queen is not to be removed until the introduction takes place. No time is lost by waiting a few days, as the queen, after her journey, would lay no sooner if placed at once in a very powerful colony.

Brighton, England.

For the American Bee Journal.

Beating Tin-Pails and Brass-Kettles.

A. H. WALLBRIDGE, JR.

Every one at all accustomed to bees, knows the utter absurdity of beating tin-pans and brass-kettles when bees are swarming. This, wise bee-keepers know is useless, and if any purpose be served by it, it would rather be to cause their departure by fright, than to cause them to alight and cluster, as is generally supposed. But a custom so long prevalent that its origin is lost in antiquity, entitles it at least to a hearing. For want of a better, I take the following: Jupiter—"the father of gods and men"—the great Jupiter mentioned in Acts, 14:11-14, of whom the Lycaonians said, "the gods are come down to us in the likeness of men," is reported in heathen mythology to be the son of Saturn, by his wife Ops, or Cybele, of whom Jupiter was born. Saturn had a penchant for devouring all his sons as soon as born. His good wife Ops is related to have secreted this son Jupiter in a cave on Mount Ida in Crete, where he was fed on honey and goat's milk. His care-takers, however, and the Corybantees, upon his father Saturn's approach, frightened him off with the noise of cymbals and drums. Thus the worship of Jupiter came to be accompanied with this noise—the bees joining in this worship by feeding the object of it.

Subsequently it was supposed that in their hilarious flight (swarming), they were performing their part in the worship of the god Jupiter, whom they had nourished. The racket of tin-pails and brass-kettles was the agreeable accompaniment of the Corybantees and other worshippers; thus a joint worship by men and bees was paid to the god. This is an origin of the nonsensical battering of tin-pans and brass-kettles, usually gotten up on the occasion of swarming. Those who make this needless clamor hardly know that in so doing they are paying an act of worship to Jupiter, god of the heathen. Bee-keepers who know how useless this clatter is, call them "heathens," and they seem entitled to be so-called with some show of reason and history.

Belleville, Ont.

Read at the Maine Convention.

Bee-Keeping for Women.

MRS. L. M. CROCKETT.

Whoever keeps bees must have a real love for the business, and employ all of his leisure, and some of his time when he should be asleep. We all know if we are particularly interested in any one thing, we will think and study upon it until we get it settled in our minds, and we should be as much interested in bees; but it is not so easy settling all the points in bee-keeping. Some think it is just the business for ladies to engage in. It may be if they have no families. We have read accounts where ladies have been successful in agriculture as a business, but it is not every lady that can hold a plow to break the ground, or follow the team all day to harrow it, and unless we can do a man's work in the field, I think agriculture had better be left for the stronger sex. So in bee-keeping: we can help in many ways, but when the woman with household duties, and a family of small children to assist in bringing up, undertakes the management of 40 or 50 colonies of bees, she must neglect her family or her bees.

I think Dr. J. G. Holland was right when he said the woman that left the care of her family for some other employment, stepped down—for what higher, holier calling can a woman follow than in caring for her family? I would say to the ladies, if your husbands are interested in bee-keeping, interest yourselves in it, and help them all you can, not only in the care of the bees, but by talking over how it is best to prepare for the honey harvest when it comes. We want all things in readiness so there may be no delay. We know we get good ideas from them about our work by talking with them, and sometimes the children can give useful hints. I think we should talk with them. I have great hopes for the coming generation in regard to bee-culture, for I have no idea we shall learn it all in our day.

By industry and perseverance we can overcome great difficulties. We cannot remain idle if we think to keep bees on the improved plans, for there is much to be done if we have only a few colonies, and it not only takes time but money to carry on the business. We must not think anything will do for a hive, or that it is good enough for us. We want the best, put together in the best possible shape, so there will be no danger from leaky hives, and when the bees need attention, be prompt in giving it. If we would have them profitable, we must look after their needs just as much as we would any of our other stock. Sometimes a little care will save a good colony, and how could we employ that time to better advantage or at more profit. Let us try and do our best in the management of our bees, as in everything else, and I believe we shall be successful.

Dexter,⊙ Maine.

For the American Bee Journal.

Spider-Plant and Virginia Creeper.

JOHN A. BALMER.

A good deal has been written about this plant, but I do not think that it will ever take a place in the front rank amongst honey-plants. There is no doubt but what it is a great plant to secrete nectar, but the nectar is available to the bees for so short a time each day, that it will not pay to give much space to it on our lands. During the day it presents a woe-begone appearance, and looks as if all dried up: about 4 or 5 p. m. it begins to freshen up, and the flowers assume a deeper color; about this time, too, tiny drops of nectar are to be seen collecting on the younger flowers. It is generally about 6 p. m. before the bees find it, thus giving them only an hour or two to work on it at evening. Sometimes there is a plentiful yield of nectar for an hour or two in the morning, but this is not always certain.

This plant is seen at its best about 7 or 8 p. m., or just as darkness is closing in; it then affords a bountiful harvest for the "humming-bird moths," and numerous other nocturnal winged insects.

Another reason why it will never become popular is the trouble to start it every spring. Seed sown here the last week in April, once transplanted, and finally planted out in the 1st week in June, bloomed the first week in July, or about four weeks after being put out. It blooms until frost—and is a beautiful plant after sundown.

There is an excellent honey-plant which I do not think has ever been brought to the notice of bee-keepers—it is *Ampelopsis Veitchi*. This plant is a hard-wood timber, and a near relative of the Virginia creeper (*Ampelopsis hederacea*). It is a beautiful rapid-growing climber, provided with short-branched, tendril-like hold-fasts, each branch of which is provided with a sucker or disc, by means of which it holds fast to the surface with which it comes in contact, whether stone, brick or tree-bark. The color of this plant is a light, tender green, flushed with red in summer, and changing to brilliant crimson in autumn. The flowers are very abundant, yet inconspicuous. It will grow in almost any soil, and is perfectly hardy south of the Arctic Circle. The bloom lasts 15 or 20 days, and is roaring with bees all the while. For covering dwelling-houses, barns, or out-buildings, I can conceive of no finer ornament.

Paris,⊶ Ills.

Exchange.

Hiving Bees—An Old Incident.

"Never resolutely defend thyself when they seem to threaten thee," writes old Mr. Butler; and the better to impress that excellent maxim on the mind of the amateur bee-keeper, and convince him how such a course may help him in the direst strait his bungling may bring him to, I will relate to him a marvelous little story told by Thorley, the bee-master, and furnished by him in his "Female Monarchy:"

"One of my swarms settling among the close twisted branches of some coddling trees, and not to be got into a hive without more help, my maid-servant, hired into the family the Michaelmas before, being in the garden, very officiously offered her assistance so far as to hold the hive while I dislodged the bees, she being little apprehensive of what followed.

"Having never been acquainted with bees, and likewise afraid, she put a linen cloth over her head and shoulders, concluding that would be a sufficient guard, and secure her from their stings. A few of the bees fell into the hive, some upon the ground; but the main body of them upon the cloth which covered her upper garments. No sooner had I taken the hive out of her hands, but, in a terrible fright and surprise, she cried out. The bees were got under the covering, crowding up towards her breast and face. When I perceived the veil was of no further use, she at last gave me leave to remove it. This done, a most affecting spectacle presented itself to the view of all the company, filling me with the deepest distress and concern, as I thought myself the unhappy instrument of drawing her into so great and imminent hazard of her life, which now so manifestly lay at stake.

"It is not in my power to tell the confusion and distress of mind I was in from the awful apprehension it raised; and her dread and terror in such circumstances may reasonably be supposed to be much more. Every moment she was at the point of retiring with all the bees about her. Vain thought! to escape by flight. She might have left the place, indeed, but could not the company? and the remedy would have been much worse than the disease. Had she enraged them, all resistance had been in vain, and nothing less than her life would have atoned for the offense. And now to have had that life (in so much jeopardy) insured, what would I not have given?

"To prevent, therefore, a flight which must have been attended by so fatal a consequence, I spared not to urge all the arguments I could think of, and used the most affectionate entreaties, begging her with all the earnestness in my power to stand her ground and keep her present posture; in order to which I gave her encouragement to hope in a little space for a full discharge from her disagreeable companions; on the other hand assuring her she had no other chance for her life. I was, through necessity, constantly reasoning with her, or else beseeching and encouraging her.

"I now began to search among them, now got in a great body upon her breast, about her neck, and up to her chin, for the queen. I presently saw her, and immediately seized her, taking her from among the crowd with some of the workers in company with her, and put them together in the hive. Here I watched her for some time, and as I did not observe that she came out, I conceived an expectation of quickly seeing the whole body quickly abandon their settlement; but, instead of that, I soon observed them, to my great sorrow and surprise, gathering closer together, without the least signal for departing. Upon this I immediately reflected that either there must be another queen, or that the same was returned. I directly commenced a second search, and, in a short time, with a most agreeable surprise, found a second or the same; she strove, by entering further into the crowd, to escape me, which I was fully determined against, and apprehending her without any further ceremony or the least apology, I reconducted her with a great number of the populace into the hive.

And now the melancholy scene began to change, and gave way to one infinitely more agreeable and pleasant. "The bees presently missing their queen, began to dislodge, and repair to the hive, crowding into it in multitudes, and in the greatest hurry imaginable; and in the space of two or three minutes the maid had not a single bee about her, neither had she so much as one sting, a small number of which would have quickly stopped her breath."

SELECTIONS FROM OUR LETTER BOX

Splendid Yield of Honey.—Mayer & Didier, Marksville,⊙ La., on July 16, 1885, write:

The yield of honey this season, in our section of the country, has been very good. We have extracted three times, up to this date, and have measured 300 gallons, or about 3,600 pounds in weight. The average number of hives extracted from was from 20 to 23. This is our first extracting season, and we are yet new in the business.

Basswood at its Best.—D. Millard, Mendon,♀ Mich., on July 16, 1885, writes:

Fully 75 per cent. of the bees throughout this section died during the past winter and spring, and what were left were weak, and did not get in good working condition in time for the white clover bloom. Fruit bloom was light, and the early white clover secreted little or no honey. Basswood bloomed abundantly, and is now at its best, and if the weather continues good for a few days, we shall get a good yield.

Bees Not Doing Well. — Jarvis Rainey, Forestville,♀ N. Y., on July 20, 1885, writes:

Bees have not done very well in this locality, up to this date. I wintered 63 out of 65 last winter, on natural stores. I do not believe in Heddon's pollen theory. I believe that I have wintered bees better for the last ten years than Mr. H. has; I pay no attention to pollen.

"Enlist for the War."—C. F. Greening, Grand Meadow,∽ Minn., on July 20, 1885, says:

I hope that all true bee-keepers will "enlist for the war," on the question of defending their rights, whether it is for 3 years or more.

Sheep and Bees—The Season.—D. L. Shapley, Randallsville,⊙ N. Y., on July 14, 1885, says:

I fully endorse all that has been written in regard to that Wisconsin bee-suit. My father kept from 80 to 100 colonies of bees until about 1858, when he lost all, and there have not been any bees kept on the farm until I got them three years ago; but sheep have always been kept on the farm in numbers from 5 to 150 or more, and until this suit came up we never heard or thought of such a thing as bees driving sheep from white clover, but always noticed that the bees left the flowers when animals of any kind were grazing near it. I think it the most absurd charge that could be thought of, but as one or two have said in the Bee Journal, it will be hard to prove the identity of the bees. Bees have stored but little surplus honey so far: there has been only a very few days that they could work on white clover. Basswood is just beginning to blossom a very little, and in about ten days the bees will have an abundance of it to work on, if the weather is such that they can get it. I never saw it budded as full as it is now.

Bees Harmless as Flies.—A. L. P. Loomis, Rosendale,⊶ Wis., on July 20, 1885, writes:

Any one who is acquainted with bees when gathering honey, know that they are as harmless as flies; they never sting unless driven to it by injury. If sheep were feeding, the bees would simply fly away. A neighbor a few days since, driving through a white clover pasture, stopped his horses twice to discover the cause of the buzzing before he noticed the bees; they simply gave room, and disturbed neither horse nor driver.

Defense Association.—T. E. Turner, Sussex,♀ Wis., on July, 20, 1885, writes:

I am heartily in favor of the defense association, for, as I live in Wisconsin, I might need help some day, and then if I do not, the general interest of bee-keepers may require such an association. The bee and honey business is slow here this spring. If bees gather enough honey to winter upon, they will do more than is anticipated in this section.

Almost Unlimited Honey-Resources.—Eugene Secor, Forest City,♂ Iowa, on July 20, 1885, says:

The honey prospect is very good. We have had a very good bloom of white clover, and now the bees are rollicking in basswood blossoms. I feel quite confident of a reasonable harvest, and prices are going to be remunerative, from the fact that so many lose all, or nearly all, their bees every hard winter. The business is not likely to be overdone. There are fewer bees kept in this locality than there were ten years ago, owing to losses from bad management, and want of success through ignorance; but the honey resources are almost unlimited. It would seem almost impossible to overstock this section.

Stock Undisturbed by Bees.—Chas. Follett, Osage,♂ Iowa, on July 16, 1885, writes:

One of my apiaries is located in a calf and pig pasture, and they are undisturbed by the bees, though they eat the grass all around the hives and keep it down. Another apiary is located between a house and barn in the city of Osage, which has 3,000 inhabitants, and the members of the family pass these hives without interruption. A well was drilled 79 feet deep in that bee yard, and none of the workmen were stung. My bees work on white clover from 2 to 6 p. m. This season white clover does not secrete honey until about 11 a. m.

Rendering Wax.—Geo. E. Hilton, Fremont,⊷ Mich., writes as follows:

The following is a description of a wax extractor that I have made and am using to my satisfaction: Make a can of heavy tin, 20 inches deep and 13 in diameter, with tight bottom. Two and one-half inches from the bottom I put in a tin spout, 5 inches from the bottom I solder on several lugs, upon which rests a wire screen securely fastened into a tin rim that can be taken out at pleasure. This leaves a receptacle 13x15 inches, for old combs, above the screen. This I keep in my extracting room, and as often as it becomes full, I place it on the kitchen stove and pour boiling water through the combs until it commences to run out of the spout, and then I stop up the spout, put on the cover, and the steam is forced up through the combs, and the wax drops through the screen, and the refuse settles to the bottom of the can, except what remains above the screen. When done, the wax can be drawn off into a receptacle containing some hot water, and allowed to cool, and it is ready for use without a second melting. Mr. James Heddon says wax put through his double-refining process shrinks about 10 per cent.; I sent him mine, made in this way last winter, and he said it was so clean that it would not shrink over 4 per cent., and he sent me 48 pounds of thin foundation made from 50 pounds of my wax.

That Insurance.—L. N. Tongue, Hillsboro,⊷ Wis., on July 18, 1885, writes:

As Mr. Chas. Follett wishes to hear from all in reference to his plan of an Insurance Mutual Bee-Keepers' Association (see page 444), I say no, most emphatically; such an association would kill the Bee-Keepers' Union. Who would wish to pay B's loss in wintering (or from any other cause) when we combine to defend the common right of all against those who would crush a man because he saw fit to engage in apiculture? The Bee Keepers' Union is the right thing in itself. If bee-keepers wish to form a Mutual Insurance, let them do so, but to connect it with the Union—never. The Union has enough on its hands, from present indications. I would call the attention of bee-keepers to the article in the Bee Journal of July 15, on page 435. The Union is not formed any too soon, and every bee-keeper should rally to its support. "In union there is strength. A house divided against itself cannot stand."

[We certainly should not favor an insurance business connected with the Bee-Keepers' Union. The time has hardly come yet, we imagine, for an Insurance separate from the Insurance companies now existing.—Ed.]

Bee-Keeping in W. Virginia.—J. C. Tanner, Huntington,⊷ W. Va., on July 15, 1885, writes:

West Virginia is often called the Switzerland of America, and I believe that it is well named, as I cannot imagine how there could be any grander or finer scenery anywhere than in the mountains of both the Virginias, especially along the Kanawha and New rivers, a distance of nearly 100 miles, where the hills are 2,000 feet high, and upwards, and filled with the best of coal, and clad with the finest timber—the kinds which please the bee-keepers—such as poplar (or tulip as it is often called); also chestnut, linden and sour-wood in abundance; the last three are now in bloom in all the vales and along the base of the mountains, the bloom coming out later and later the higher up on the mountain-sides it is, thereby making the honey season double the usual length when on level ground. Besides the above-named trees, there is a host of other trees, shrubs and flowers too numerous to mention. This is a good, healthy country, with the purest of waters of various kinds, such as sulphur, iron, etc., many of which are noted all over the country. Here a person can sleep in comfort nearly if not every night all summer, and where there are no mosquitoes, nor malaria, as both go together. The best of land can be bought for from $1 to $100 per acre. West Virginia has not run its infancy yet, as regards development, and if Northern people and bee-men knew more about this State and its resources, they would soon take advantage of it. I hope to end my days in the mountains of Virginia or W. Virginia, surrounded with a fine apiary.

Good Yield of Honey. — Robert Downs, Naugatuck,♀ Conn., on July 20, 1885, says:

I am keeping only from 20 to 30 colonies of bees, farming being my principal business; but I am glad to contribute my mite towards defending the bee-keeping interests of our country, for it appears that we certainly do need a Bee-Keepers' Union. The yield of honey thus far this spring has been the best that I ever knew. Sumac is just now beginning to bloom, and if the weather is good, I expect a big yield of honey from it. The honey is very white and nice.

Bees and Sheep, etc.—David Rowe, Lime Ridge,⊙ Wis., on July 22, 1885, says:

I have kept from 50 to 150 sheep, and from 50 to 200 colonies of bees for the past 15 years. My pastures are well dotted with white clover, and I do not think that my sheep were ever driven a rod, or even molested by my bees when feeding. As I live 12 miles from Mr. Freeborn, I have been acquainted with both parties for the last 25 years. Mr. F. is known as "the model bee-man," and is always willing to give good advise to beginners. All know that jealousy has something to do in law-suits. I think that it is to the interest of every man that is handling bees or honey, to put a shoulder to the wheel of defense in this suit. Bees have done well on white clover. Basswood bids fair.

"Swarm-ity-Swarm." — Mr. J. O. Shearman, New Richmond,♀ Mich., on July 18, 1885, writes:

The bees are "rushing" me. Clover is good, and basswood is full and just opening. It is swarm-ity-swarm.

Good Swarming Season, etc.—W. D. Wright, (243—410), Knowersville,○+ N. Y., on July 17, 1885, writes:

It is certainly the duty of every bee-keeper to help defend the bee and honey interests of the country, by joining the National Bee-Keepers' Union. We must "hold the fort." We have had a good swarming season, and bees are now storing honey moderately.

Basswood Honey Harvest.—A. Wicherts, (110—85), Matteson,♂ Ills., on July 18, 1885, says:

I think that money put into the defense fund is well invested. Last fall I put into my cellar 110 colonies, and I took out 105 of them in the spring. I lost 20 colonies during April and May, by spring dwindling, and sold 2 colonies, thus leaving me 83, one-third of which were good, one-third weak, and one-third very weak, but by the aid of the stronger they were built up before the basswood flow. I hived 17 swarms, and 5 or 6 went to parts unknown. I have extracted about 1,000 pounds of basswood honey, and we are now just in the middle of the bloom; but since yesterday the secretion of nectar has ceased on account of a cool, dry atmosphere, and I think there will be no more honey gathered from it; but we are thankful for what we already have, as the hives are all full of honey and brood, making them as heavy as chunks of lead.

Wonderful Honey-Yield and Increase.—6—Wm. Malone, (5—25), Oakley,♀ Iowa, on July 18, 1885, says:

One can judge of the honey season here in Iowa when I say that I have increased my apiary from 5 to 25 colonies, and have taken 285 pounds of honey, and yet there is 800 pounds more ready to be taken off. I have not bought a bee nor queen this year, but sold one frame of brood on June 1. Linden has just fairly come into bloom. This exceeds my expectations. I will give a full report in due season.

Honey Season is Good.— Jno. A. Balmer, Paris,○+ Ills., on July 18, 1885, says:

We are having a good honey season. My colonies are in good condition, and colonies will average 50 pounds of comb honey each, in this locality. I lost 7 during the past winter, and had 5 left; these I have increased to 14, 9 of which are working in supers. White clover is about past for this year.

Results of Envy and Ill-Will.—Jas. McNeill, Hudson,○~ N. Y., writes:

I am heartily in sympathy with the Bee-Keepers' Union. Persistent ignorance, which through envy and ill-will refuses to be enlightened, must be combatted at all lengths necessary to overthrow it. Every successful bee-keeper is the object of the ill-will of one or more of his neighbors, who regard him as a sort of usurper of their rights, reaping where he has not sown, and gathering where he has not strewn, and in proportion to their success they are envied, and only a slight provocation is sometimes necessary to make this ill-feeling take the form of open hostility.

Local Convention Directory.

1885. *Time and place of Meeting.*

Aug. 25.—N. W. Ill. and S. W. Wis. at Rock City, Ill.
J. Stewart, Sec., Rock City, Ills.

Sept. 1, 2—W. N. Y. and N. Pa., at Salamanca, N.Y.
A. D. Jacobs, Sec., Jamestown, N. Y.

Dec. 8—10.—Michigan State, at Detroit, Mich.
H. D. Cutting, Sec., Clinton, Mich.

☞ In order to have this table complete, Secretaries are requested to forward full particulars of time and place of future meetings.—Ed.

The National Bee-Keepers' Union.

CONSTITUTION.

Article I.—This organization shall be known as the "National Bee-Keepers' Union," and shall meet annually, or as often as necessity may require.

Article II.—Its object shall be to protect the interests of bee-keepers, and to defend their rights.

Article III.—The officers of this Union shall consist of a President, five Vice-Presidents, and a General Manager (who shall also be the Secretary and Treasurer), whose duties shall be those usually performed by such officers. They shall be elected by ballot, and hold their several offices for one year or until their successors are elected and installed; blank ballots for this purpose to be mailed to every member by the General Manager.

Article IV.—The officers shall constitute an Advisory Board, which shall determine what action shall be taken by this Union, upon the application of any bee-keepers for defense, and cause such extra assessments to be made upon all the members as may become necessary for their defense.

Article V.—Any person may become a member by paying to the General Manager an Entrance Fee of ONE DOLLAR to the Defense Fund, and an annual fee of 25 cents, for which he shall receive a printed receipt making him a member of this Union, entitled to all its rights and benefits. The annual fee shall be due on the first day of July in each year, and MUST be paid within 30 days in order to retain membership in this Union.

Article VI.—Donations of any amount may be made at any time to the Defense Fund, in addition to the entrance and membership fees and the regular assessments made upon the members by the Advisory Board.

Article VII.—The Defense Fund shall be used for no other purpose than to defend and protect bee-keepers in their rights, after such cases are approved by the Advisory Board, and shall only be subjected to Drafts regularly made in writing by the Advisory Board.

Article VIII.—The annual fees paid by the members shall become a general fund, from which shall be paid the legitimate expenses of this Union, such as printing, postage, clerk-hire, etc.

Article IX.—Meetings of this Union shall be held at such times and places as shall be designated by the Advisory Board, or upon the written requisition of ten members.

Article X.—This constitution may be amended by a majority vote of all the members at any time.

LIST OF MEMBERS AT THIS DATE:

Allen, Raosom,
Anderson, Wm.,
Angell, C. S.,
Baldwin, B. T.,
Barnes, Wm. M.,
Baxter, E. J.,
Bernschein, Ernst,
Besse, H., M. D.,
Bitzer, Wm.,
Bray, Moses,
Brickey, Peter,
Buchaoan, J. W. & Bro,
Burton, L.,
Chapman, J.,
Cheney, H. H.,
Clarke, Rev. W. F.,
Connley, John T.,
Cook, Prof. A. J.,
Dadant, Chas.,
Dadant, C. P.,
Darby, M. E.,
Dayton, C. W.,
Decker, A. A.,
Demaree, G. W.,
Dibbern, C. H. & Son,
Dickason, T. B.,
Dittmer, Gus,
Doolittle, G. M.,
Downs, Robert,
Drane, E.,
Dunham, P.,
Dunn, John,
Eaglesfield, E. C.,
Eastwood, L.,
Feathers, Harvey,
Flanagan, E. T.,
England, P. J.,
Follett, Charles,
Forbes, W. E.,
France, E. & Son,
Freeborn, S. I.,
Fulton, W. K.,
Funk, H. W.,
Furness, Dwight,
Gander, A. M.,
Green, Charles H.,
Greening, C. F.,
Gresh, Abel,
Grimm, Christopher,
Hatch, C. A.,
Havens, Reuben,
Hayhurst, E. M.,
Heaton, J. N.,
Heddon, James,
Hensley, J. P.,
Hettel, M.,
Hill, A. G.,
Hills, Mrs. H.,
Hilton, George E.,
Howard, J. B.,
Hoyle, George H.,
Huse, Wm. H.,
Hyne, James M.,
Jones, George W.,
King, T. Frank,
Langstroth, Rev. L. L.,
Le Roy, J. W.,
Ludkey, Charles,
Ludloff, K.,
Maddox, W. T.,
Mallory, S. H.,
Marden, Henry,
Mason, Jas. B.,
Mattoon, Jas.,
McConnell, James,
McNay, Frank,
McNeill, James,
Miller, Dr. C. C.,
Miller, Henry,
Mills, L. D.,
Minnich, F.,
Minor, N. L.,
Muth-Rasmussen, Wm.,
Nelson, James A.,
Newman, Alfred H.,
Newman, S. M.,
Newman, Thomss G.
Nipe, James,
Pennoyer, L. A.,
Peters, Geo. B.,
Powell, E. W.,
Pray, G. L.,
Rainey, Jarvis,
Rey, John,
Reynolds, M. G.,
Root, A. I.,
Rowe, David,
Secor, Eugene,
Shapley, D. L.,
Shearman, J. O.,
Shirley, W. H.,
Smith, George,
Spady, Jno.,
Spencer, M. L.,
Stearns, J. R.,
Stephenson, H. W.,
Stewart, W. H.,
Stolley, Wm.,
Storer, E. M.,
Talbert, M.,
Theilmann, C.,
Thompson, Geo. M.,
Tinker, Dr. G. L.,
Tongue, L. N.,
Travis, F. W.,
Trimberger, John,
Turner, T. E.,
Vanhouten, C. W.,
Viallon, P. L.,
Walton, Col. R.,
Webster, H. S.,
Whitney, W. V.,
Wicberts, A.,
Wilkins, Miss Lucy A.,
Wright, W. D.,
Zwiener, H. L.

To give away a copy of "Honey as Food and Medicine" to every one who buys a package of honey, will sell almost any quantity of it.

WEEKLY EDITION
OF THE
AMERICAN
ESTABLISHED IN 1851
OLDEST BEE PAPER IN AMERICA
BEE JOURNAL

THOMAS G. NEWMAN,
EDITOR.

Vol. XXI. August 5, 1885. No. 31.

APICULTURAL NEWS ITEMS.

EDITORIAL AND SELECTED.

Drones are tolerated in queenless colonies; hence, if you have a colony with superior drones and want to have them fertilize your young queens, make that colony queenless.

Folding Paper Boxes for marketing comb honey, are excellent contrivances. We have just received a circular concerning them, from Mr. George T. Hammond, Brockport, N. Y. They can be obtained so cheaply (about 1¼ cents each) that they should come into general use.

Young Bees do not gather honey from the flowers until they are 14 days old. Their duties are to nurse the larvæ, clean the cells, build and care for queen-cells, etc. They are not idlers—they are workers, and as soon as they become of *ripe age*, they will take their places in the fields.

Oleomargarine must be so "labeled" in Missouri. The late Legislature passed a law making it a misdemeanor for any hotel, inn, or boarding-house keeper to set before his guests, at any meal, any compound resembling butter, manufactured from cattle fat or beef suet, or any article known as oleomargarine, unless the name shall be clearly and indelibly marked on the dish or plate containing it, with its true name. Why not serve "glucose" in the same way?

Glucose from Rags.—The *Revue Industrielle* states that a German manufactory is turning out over a ton a day of glucose made from old linen rags. "These rags, which are composed of hard vegetable fibers, are treated with sulphuric acid, which converts them into dextrine. The latter product thus obtained, undergoes a washing with milk of lime, and is then treated with a fresh supply of acid stronger than the former, when the mass is at once transformed and crystallizes into glucose, of which confections, honey and jelly may be made. The process is said to be a very cheap one, and the glucose chemically identical with grape-sugar. A strong out-cry, however, has arisen against the manufacture of grape-sugar from rags, and the enterprise is understood to be in danger of being interfered with by the German government."

The Southern Exposition for 1885 will be held at Louisville, Ky., from Aug. 15 to Oct. 24. The foreign exhibits are from 15 different countries, and the American exhibits are from every State and Territory.

Ants can easily be exterminated by putting about two ounces of lard-oil in a small tin can without a top, and burying the can about half way in the earth near the ants' nest; leave it until the next day, and, if any ants are seen outside of the can, pour a little more oil into it—stir it with a stick and let it stand a little longer, when the last ant within travelling distance will be drowned in the oil.

When Marketing Extracted Honey, it is a sad *blunder* to use barrels holding from 300 to 500 pounds—they are too large to be desirable for the trade, too bulky to be handled with care in transportation, and too dear to be lucrative to the producer, for honey put up in such large barrels is subject to a discount of one cent per pound, because of the difficulty in disposing of it without repacking and dividing into smaller lots.

Paste for Labels on Pails, Jars, etc.—A correspondent asks for a good recipe for paste to hold honey-labels on tin or earthenware. Here is one: "Make thin flour paste in the usual way. When nearly cooked, add about one-eighth as much of cheap Porto Rico molasses, and cook for 10 minutes longer, stirring continually to prevent burning. If too thick to work well, it may be diluted with warm water, thoroughly mixed before using."

Mignonette.—A California correspondent, living not far from San Francisco, writes that he has been unable to find any flower that bees work on in greater numbers than they do on a variety of mignonette, which he thinks is Parson's New White. It is a tall-growing kind, and grows in his climate from year to year, and where given space it spreads rapidly, as it propagates itself from seed very readily. He has measured spikes of bloom over two feet long, and as there are numbers of them, it may be easily seen how profuse a bloomer this plant must be. He writes that it will take hold anywhere.

Flowers, of gay tints and exquisite attire, are made to attract the bees by their lovliness, for the purpose of getting the bees to fertilize them. The *Fanciers' Friend* adds its testimony on this point, in this language: "How easy it might have been to have ordained that flowers should fertilize themselves, as many do, without any extraneous intervention; but, by this wise and benevolent ordination, a tribe of sensitive creatures is introduced, to be perpetuated by the perpetuation they supply to that which supports them, and in this circle of reciprocal good offices, lend an additional charm to the genial seasons, by the animation which they give to the face of nature, in embellishing the plants they visit with their vivacity and music."

Surely creative wisdom is ever glorified by her offspring. She spreads a "table of plenty" before the bees, enticing them to it by billions of resplendent blossoms, exquisitely perfumed by the balm of thousands of sweet-scented flowers, while they in turn, present their thank-offering in the "merry hum" of their supernal "matin-song."

Bee-Keepers' National Union.—The voting for officers under the Constitution, for the coming year, was closed on Aug. 1st, and resulted in the election of the following persons:

President—James Heddon.

Five Vice-Presidents—G. M. Doolittle,
G. W. Demaree, A. I. Root,
Prof. A. J. Cook, Dr. C. C. Miller,

Manager, Sec'y & Treas.—T. G. Newman.

The details were as follows on the vote for President: James Heddon 60, A. I. Root 38, Prof. A. J. Cook 8, Thomas G. Newman 6, G. M. Doolittle 2, Dr. C. C. Miller 2, J. E. Pond, Jr. 2, Alfred H. Newman 1, Rev. W. F. Clarke 1.

For Vice-Presidents: G. M. Doolittle 77, G. W. Demaree 63, Prof. A. J. Cook 61, Dr. C. C. Miller 62, A. I. Root 59, S. M. Locke 45, A. J. King 44, H. Scovell 38, A. G. Hill 33, James Heddon 33, Chas. Dadant 16, W. Z. Hutchinson 7, A. H. Newman 5, C. F. Muth 5, Dr. G. L. Tinker 5, S. I. Freeborn 4, E. M. Hayhurst 3, C. P. Dadant 3, Wm. Muth-Rasmussen 2, Rev. L. L. Langstroth 2, Paul L. Viallon 2, O. O. Poppleton 2, T. G. Newman 2, Geo. Grimm 2, W. H. Stewart 2, Rev. W. F. Clarke 2, J. E. Pond, Jr. 2, Judge W. H. Andrews 2, Dr. H. Besse 1, Mrs. L. Harrison 1, C. Theilmann 1, E. France 1, Rev. O. Clute 1, Arthur Todd 1, Dr. E. B. Southwick 1, Allen Pringle 1, Dr. J. P. H. Brown 1, Christopher Grimm 1, A. A. Baldwin 1, E. A. Gastman 1, H. Alley 1, Barton Forsgard 1, D. A. Jones 1, Chas. H. Green 1, W. H. Shirley 1, L. C. Root 1, J. B. Mason 1.

For Manager, Secretary and Treasurer: Thomas G. Newman 115. Blank 5.

There are about 30 voting blanks that have not been returned, and so these votes are lost—not being here on the 1st day of August. There were no candidates nominated, and hence no one is defeated. The voting was as free as it was possible to be, as is shown by the scattering vote.

All those who are elected have been notified, and the first business (that of selecting proper counsel) has been laid before them for action. Now we are ready to work, and every bee-keeper should at once join the Union and help to supply the funds necessary for defense.

* * *

☞ The Cedar Valley Bee-Keepers' Association will hold its annual meeting at the office of Jerry Moser, on Fourth street, east side, Waterloo, Iowa, on Aug. 12, 13 and 14, 1885. All interested in bee-keeping are cordially invited. A. D. BENNETT, *Sec.*

☞ Owing to a very heavy rain-storm during the forenoon of July 18, the meeting of the Marshall County Bee-Keepers' Association was deferred until Saturday, Aug. 29, 1885, at 10.30 a. m., in the Court House at Marshalltown, Iowa. Subjects: "Fall Management of Bees" and "Care and Sale of Honey." All bee-keepers are invited. It will be a time of rest from other labor, and we hope to have a good meeting.

J. W. SANDERS, *Sec.*

☞ The third Annual Picnic of the Eastern Iowa and Western Illinois Bee-Keepers' Association, will be held at Black Hawk's Watch Tower, 4 miles south of Rock Island, on Thursday, Aug. 13, 1885. Cars leave Terry Landing, in Rock Island, for the grounds every half hour. A pleasant time is anticipated. Bee-keepers and their friends are cordially invited to attend. We are glad to announce that Mr. I. V. McCagg, President and founder of the Association, is improving, and will shortly again be able to be with us, after an illness of some 60 days, the greater part of the time being confined to his bed with intense suffering from inflammatory rheumatism. He expects to be so much improved as to be able to attend the picnic.

WM. GOOS, *Sec.*

QUERIES

WITH

REPLIES by Prominent Apiarists.

Flat-Bottom Foundation.

Query, No. 94.—Will bees change the base of flat-bottom foundation before drawing it out? or after drawing it out will they fill up the corners with wax, or let it remain with a flat base?—Burlington Co., N. J.

G. M. DOOLITTLE says: "My experience says that they change the base in using it, so they must of necessity thin it. This is why I prefer the flat-bottom foundation for sections, for with the natural base, bees often simply add their wax to the foundation, leaving that untouched as far as thinning it is concerned; hence the complaint of 'fish-bone' center."

W. Z. HUTCHINSON answers: "After the flat-bottom foundation is drawn out, the base of the cells will be found shaped like the base of natural comb; how this change is effected, I do not know."

G. W. DEMAREE replies: "I have never used any foundation with 'flat-bottom,' except some thin foundation in section-boxes. With the thin foundation, but little or no alteration was made at the bottom of the cells, so far as I could discover."

J. E. POND, JR., remarks: "I have never used flat-bottom foundation, for the reason that I do not think it is in accordance with the laws governing comb-building. Undoubtedly a thinner base can be formed flat than natural by machinery."

JAMES HEDDON says: "They usually change the base, but by what process I have never experimented carefully enough to know."

PROF. A. J. COOK answers: "I have used but little of this kind of foundation, and have not observed anything relating to the matter."

CHAS. DADANT & SON say: "We have never used flat-bottom foundation, so we will let others speak."

DR. G. L. TINKER replies: "In drawing out both the heavy and the light foundation, the bees manage to get the cells properly shaped at the bottom. It is never left with a flat base."

Drawing out Foundation.

Query, No. 95.—It being conceded that bees fill themselves with honey before they swarm, it must be apparent that if this honey is formed into wax before they are put upon a new stand, this wax is all lost by hiving them upon full sheets of foundation; if not, what do the bees do with this honey while drawing out the foundation?—H.

JAMES HEDDON answers: "All the honey that bees contain when swarming would make but little wax. Some honey is needed to support them while drawing out the foundation, and any excess can be stored as fast as the foundation is drawn out. Bees, if crowded for room previous to swarming, often swarm with wax scales, and these are sometimes used to build the tops of the combs beyond the breeding depth. Such scales are not commonly found on many bees that are supplied with proper room before swarming, especially if run for extracted honey."

CHAS. DADANT & SON reply: "We suppose that bees can draw out the foundation while they are full of honey. The proof of it lies in the fact that foundation will be already partly drawn out in less than 2 hours after hiving an ordinary swarm."

W. Z. HUTCHINSON says: "It is not apparent to me that the honey *is* formed into wax before the bees are put upon a new stand. Can it not be possible that the honey is retained in the honey-sac until the foundation is sufficiently drawn out to allow the honey to be deposited? I am, this season, hiving a part of my swarms upon foundation, and a part upon empty frames, hoping thereby to decide which course is advisable."

G. M. DOOLITTLE remarks: "That is exactly what I believe. If foundation is used in the brood-chamber, use only starters in the sections, and they will use their wax there; or if foundation is used in the sections, let them build comb below, *a la* Hutchinson. This item is worth looking after."

PROF. A. J. COOK answers: "This honey is to feed vitality and all vital functions. The strength it gives goes to wax only when wax is needed. If we supply to our bees either foundation or combs, I can hardly find examples to show the wax scales to my class; take away all combs, and soon nearly every bee will show the wax scales. Wax is secreted only when needed, as a usual thing, though confinement and disturbance will also induce its secretion."

DR. G. L. TINKER replies: "According to my observation, bees are unable to make a comb from the ordinary heavy foundation, with full depth of cells, without the addition of more wax. Without using more wax they may draw it out so as to be one-half an inch thick. They go right on secreting wax just the same whether hived on foundation or not."

G. W. DEMAREE says: "Bees, as a general rule, do fill their sacs with honey when they swarm, but there are exceptions to the rule, as I have several times in my experience seen, yea 'felt.' For when they do forget to 'fill up,' you will hear from them and feel them, too, when you set about hiving them. When 'out empty,' they will sting anybody or anything. Bees not only fill their sacs full of honey when they swarm, but they make preparation for comb-building several days in advance of the issuing of the swarm. When foundation is used in the brood-department, if you want to compute the 'loss and gain,' you should charge the expense side of your account with lost honey equal to the cost of the foundation. Thus if your foundation costs 50 cts. per lb., in cash, add the price of the lost honey (wax) to it, and your foundation, in fact, costs you $1.00 per lb."

J. E. POND, JR., remarks: "The above question is one that can only be answered theoretically. We know that grass grows, and we know also that it assimilates food in so doing; the why and how we know not. I have seen quite a quantity of comb, or wax, at least, left on the limb of a tree where a swarm had remained only an hour or two after clustering, before being hived. It is fair to suppose that little excess of wax will be found unutilized."

DR. C. C. MILLER says: "Some of the honey may be deposited in the cells. It may all be needed to finish the combs, foundation only making a part."

Eight or Ten Frame Hives?

Query, No. 96.—1. Messrs. Hutchinson and Heddon, on page 308, say that a queen costs almost nothing, but combs and hives do; hence they prefer crowding their queens for room and not get their full laying capacity developed, and save two combs in each hive. I believe that it should be just the other way. Which had these two gentlemen rather take out of a hive at any time in the breeding-season, the queen or two dry combs?

2. Mr. Heddon, on the same page, says: "What is the price or worth of that kind of eggs?" Does he mean that eggs are worthless, or that a hive is just as well off for honey with only 50,000 workers as with 150,000? I believe that the stronger a colony is, the more honey we get, provided we give them room for it.—Critic.

JAMES HEDDON answers: "This is a very important subject, and needs considerable space to clearly show the reason why Adam Grimm, and many other successful honey-producers, changed from 10 to 8 Langstroth frame hives. I will herewith send an article on the subject for the BEE JOURNAL."

W. Z. HUTCHINSON replies: "I can only repeat what I said before—queens cost practically nothing, combs and hives do. I prefer to have my hives of such capacity that an ordinary queen will keep the brood-nest full. I do not wish to run the risk of having a frame or two of dead capital in each of the hives. I do not understand what is meant by the last sentence in the first paragraph.

"One hundred and fifty thousand bees will store as much honey when divided into 3 colonies of 50,000 each, as when united into one colony occupying a hive 3 stories high. I give my strong colonies plenty of room in which to store their honey, but *not in the brood-nest.*"

Convention Notices.

☞ The Western N. Y. and Northern Pa. Bee-Keepers' Association will meet at Salamanca, N. Y., in Odd Fellows' Hall, on Sept. 1 and 2, 1885. A. D. JACOBS, *Sec.*

☞ The Cortland Union Bee-Keepers' Association will hold a basket picnic at the apiary of Mr. Miles Morton, at Groton, N. Y., on Tuesday, Aug. 18, 1885. All bee-keepers, with their families, are cordially invited to be present. W. H. BEACH, *Sec.*

☞ The next meeting of the Northwestern Illinois and Southwestern Wisconsin Bee-Keepers' Association will be held at Rock City, Ills., on Aug. 25, 1885.

J. STEWART, *Sec.*

CORRESPONDENCE.

Explanatory.—The figures BEFORE the names indicate the number of years that the person has kept bees. Those AFTER, show the number of colonies the writer had in the previous spring and fall, or fall and spring, as the time of the year may require.

This mark ⊙ indicates that the apiarist is located near the centre of the State named: ♂ north of the centre; ♀ south; O+ east; +O west; and this ♂ northeast; ~O northwest; O~ southeast; and ♀ southwest of the centre of the State mentioned.

For the American Bee Journal.

My Experience with Bee-Poison.

REV. L. L. LANGSTROTH.

In 1838 I put 2 colonies of bees in an attic closet, but I made no experiments of any kind with them; they were simply looked at and admired. In 1859 I fairly began my apiarian career, and I soon found that to experiment much with bees, meant to get many stings; at first these were not only quite painful, but caused severe swellings. I dreaded to be stung the latter part of the week, for often one eye would close and the other nearly so, and to preach in such a condition was by no means a pleasure. If stung on the hand, my whole arm would swell so rapidly that if my coat was not seasonably taken off, it had to be ripped off. In short, I was a regular martyr to the bee-poison.

My second year's experience was much more favorable, and in the course of a few years, I became almost bee-proof. In the pressure of business, and my zeal for studying the habits of the bee, I generally preferred to be stung occasionally, than to lose time by wearing a bee-hat. The pain of a sting was seldom very severe, and not often caused much swelling. My experience was the same with that of most bee-keepers who have persevered in spite of stings, until at last their systems became accustomed to the poison.*

A few facts out of many that might be given: I once agreed to help a farmer to move a hive to a new location. He assured me that the bottom-board was securely fastened. It fell off before we had got more than a few steps with our load—covered with bees, some of which were crushed—and the air at once was filled with the enraged insects. The farmer dropped his side of the hive and ran away; it fell against me, but I held on until I lowered it to the ground; and then made the best of my way into the house. Perhaps a hundred or more stings were pulled out of my face and head! and yet in a few hours one could hardly have noticed that I had been stung at all. When visiting that great man, Dr. Gared P. Kirtland, of Cleveland, Ohio, he wished me to examine with him a colony of bastard (hybrid) bees. The Doctor was armed with bee-hat and gloves—both of which I declined to use. We quieted them pretty well with smoke, when he began to discuss some point in bee-culture with his usual animation. Soon his gesticulating hand was doing quite a business, the bees became furious, and paid all their respects to me; and how many stings were pulled out of my face and head I cannot tell. As soon as this extracting work was over, I said: "Doctor Kirtland, I protest against all eloquence in the vicinity of bee-hives—especially when you are clad in proof armor, and I have none!" Although ever so well stung, the pain was soon over, and in a short time no visible proof remained that a bee had stung me.

In 1874, after the death of my son, my health became so much impaired that I sold all my bees. The next spring an entire change seemed to have come over me with respect to the bee-poison. I first noticed it in extracting some stings with the poison sac attached, for a friend who wished to procure the bee-poison in a perfectly pure state. I had noticed at the beginning of each year's work among my bees, that the poison affected me in various ways, and my wife would often have to awaken me when she heard me unconsciously moaning in my sleep. The night after pulling out these stings this moaning became so pronounced as to awaken the friends with whom I was staying, and alarmed them with the fear that I was dying. Intense dryness of the tongue and fauces accompanied sometimes by what seemed to be an aggravated form of heart-burn, smarting of the eyes, a heavy drooping sensation in the eyelids, breaking out fiery spots over various parts of my body, a disposition to almost tear the flesh of my cheeks, dreaming of the most excited kind, full of violent motion—these and many other symptoms were of frequent recurrence at the beginning of each bee-campaign.

After getting the medicinal bee-poison, as before recited, the effect upon me was so severe that I became really alarmed, and earnestly sought to protect myself against any recurrence of such unpleasant symptoms. I soon found that this was next to impossible. To converse with those fresh from handling bees—nay, even to receive letters or postal cards from them, was to be poisoned again.*

Ten years ago, being at my old home in Greenfield, Mass., I engaged to visit my friend Wm. W. Cary, of Coleraine, one Saturday afternoon, intending to preach to a congregation where for some years I had served as their pastor. The day was a charming one, and I was quite happy at the thought of meeting so many old friends. Mr. Cary had been handling bees all day, and was well charged of course with the bee-poison. Almost as soon as he had shaken hands with me, my eyes began to smart, my eyelids to feel heavy, and my face to itch. My spirits sank at once, and the thought of preaching and seeing my old friends caused me only anxiety; in short, the very bottom of all hopefulness seemed to drop out, as it were, in a few moments. Explaining my reasons, I sought other quarters, but the pleasure of my visit was essentially spoiled. Imagination! I hear some one saying. Does imagination cause burning eruptions on the body, constant roaring in the ears as though near a waterfall! to say nothing of moaning in sleep, etc.?

From 1875 to 1881 I dreaded the return of each bee-season. My letters were all read by some member of my family, that I might handle none from bee-keepers. I felt that, let my general health be what it might, I could do nothing more with bees. While I could easily trace much of my suffering to the bee-poison, I could not believe that it was the cause of the head trouble from which I have suffered so much, for I was a frequent martyr to this many years before I kept bees. Now had I given my experience with the bee-poison from 1875 to 1881, I should have left the matter in such a shape as to prejudice many against having anything to do with bees. I should only have given the actual facts in my case, but for want of other facts not then duly weighed by me, my facts would have seemed to warrant inferences just the opposite from the truth.

In the spring of 1881 my health being more fully restored than for some years, it seemed to me almost an impossibility to keep longer away from the bees. A new thought suddenly occurred to me. Suppose a person after long use of tobacco or opium should give them up for some time—long enough for the effect they produce to pass away—and should then attempt to take the old, big dose! would he not be naturally alarmed at the result? May I not be mistaken then in supposing that any great change has taken place in my system, as respects the effects of the bee-poison upon it? and may not my painful experiences of the last six years be accounted for in another way? So long as I kept bees and dealt so largely in queens, I was compelled each year to inoculate my system so fully with their poison, that however severe the ordeal at first, I soon became indifferent to it. Now being under no such necessity, I stop short every time of full and repeated doses. Suppose that I take such doses again. With fear and trembling on the part of my family, but with scarcely any on my part, I determined to test the matter, for as even the presence of freshly extracted honey in the house, was enough to bring on another attack, I felt that I must get out of the world before I could escape from this dreaded poison. I determined, therefore, to make full proof of my new theory. Without any bee-hat, I helped my friends to extract their honey, all the time saying to the bees, "Sting me as often as you please;" and as they were gentle Italians, I did not scruple by somewhat rough treatment, to make them do much more than they naturally wished to in the way of stinging. From the very first I did not suffer nearly as much as I had done every year since I ceased to work with bees! and little if any more than I had done every year when first handling them. In about a week I was again bee-proof, and launched out at once into a course of experiments (all in vain) to control if possible the impregnation of queens.

---

*The Austrian who came over with Mr. S. B. Parsons' Italian bees, when stung, would leisurely take out of his pocket a vial to anoint the sting with his favorite remedy! Seeing how indifferent Mr. Cary, myself and others were to stings, he soon ceased to produce his vial.

*The susceptibility of some persons to the bee-poison, seems to be as great as that of others to the poison-ivy. I can handle this with impunity, while I have friends who cannot get near enough to it to see it, without being poisoned by it, if the wind blows to them from it!

However, I describe the delight I felt in handling again the movable frames! In the apiary of a neighbor, Rev. McGregor, I fully proved that with small strips of foundation for guides, I could use my comb-guides, or guide-frames, and secure from Italian bees the same perfect worker-combs that I used to get with these guides from the black bees, thus realizing a favorite idea of one of our greatest bee-keepers, Doolittle, viz., getting perfect worker-combs with the least use of foundation.

While handling frame after frame of such combs, and feeling as much enthusiasm as I did in 1853, when I first saw that the bees would follow the triangular comb guide, I exclaimed to the Rev. McGregor (apologizing for the seeming play upon his name), I must make those words of Rob Roy in Scott's novel, my own: "My foot is upon my native heath—and my name is McGregor!"

Oxford, ♀ Ohio.

For the American Bee Journal.

Bee-Keepers' Insurance, etc.

6—WM. DYKE, (44).

On page 444, Mr. Chas. Follett says that we ought to make the Bee-Keepers' Union an insurance company, too. With over eight years experience in fire and life insurance business, a portion of which was in examination of business at a general office, I must enter an objection to this "rider." We can organize for defense successfully, but if we undertake too much, I fear we will fail. Insurance of bees is not profitable to the company that insures it, and nearly all companies decline them entirely, how then can we as bee-keepers with no insurance experience, hope to make a success of it? No! let us confine ourselves to the emergency before us, and if we wish to organize a Bee-Keepers' Mutual Insurance Company, let it be a separate organization with separate management.

We are having a very peculiar season here this year; my bees have done finely, and were in excellent condition at the commencement of clover bloom, and a few colonies began storing in sections; but on June 15 the honey flow ceased, with 20 colonies in 32 sections each, and one in 64 (two tiers), and I got no more honey, though white clover has been in abundant bloom ever since, and we had frequent showers. This is a feature in modern bee-keeping that I do not understand.

I have increased my apiary by 7 colonies, and returned quite a number of swarms, my increase being made by division. All my colonies (44) are crowded with bees, and by feeding I am getting lots of eggs and brood for our Spanish-needle crop which begins here about Aug. 20; this never fails us, and I think the bloom will be abundant from the outlook now, but what if it turns out as did the white clover? If it does, I will have more bees this fall than I will know what to do with.

Effingham, ♀ Ills., July 24, 1885.

For the American Bee Journal.

Eight or Ten Frame Hives?

JAMES HEDDON.

Under Query No. 96, "Critic" entertains the same opinions that were almost universal 15 years ago. I will endeavor to make my ideas upon this very important subject a little clearer.

If John Smith orders me to rear a queen for him, I have to go through a series of manipulations to get her hatched at will, and then when hatched, to be sold, I must supply her a hive and colony to remain in some days before and after fertilization before she is ready to be caged and mailed to Mr. Smith. All this, together with the labor of caging, stamping, mailing, advertising, etc., costs time and money; but when Nature induces a colony to rear a new queen, when the owner is asleep, then prompts the old queen to take most of the bees and go to a new hive, leaving behind a queenless colony or nucleus in which to perfect the new queen, how much does this new queen cost the owner? How much does a queen cost a man that never saw one? A man that says there is no such bee? A man who belives in "kings?" And yet just such men have been the recipients of more than 100 young, fertile queens per year. Is it not clear that the value of the *product* of this queen depends upon how much capital it has used *since* the queen evolved it? When one has (by accidental loss of colonies) on hand a lot of *idle* capital in the way of empty combs, eggs are of great value, not *per se*, but for the reason that they cause the idle, costly and valuable combs and hives to become active property.

I use the 8-frame Langstroth hive. Last spring one-half of the colonies of my home apiary were dead. I made my living queens do double service till I could rear new ones. When I was ready to divide a colony, I had brood in abundance for both colonies. Thus you see another point of advantage in having a reserve power in your queens. But this is not the greatest gain in the use of small hives.

I do not think that I have yet mentioned the principle connected with them, that caused Adam Grimm, T. F. Bingham, G. M. Doolittle, and many others to adopt small and smaller brood-chambers. I think that they found by carefully observing results from different colonies in different sized hives, that the colonies in the small hives paid them the largest dividend upon the capital and labor invested. I discovered this about 10 or 12 years ago, and changed from the 10 to the 8-frame Langstroth hives. I have never regretted it, but have always been glad of the change.

The one great point of success in the production of comb honey, is to keep the combs of the brood-chamber *all* as nearly full of brood and clear of honey as is practically possible. Not only that, but to have the *tops* of the brood-combs filled with brood. It is of vast importance that such a condition of the hive can be reached and maintained without constant attention and manipulation. Argue and theorize all we may, and yet the hive that will bring about the required conditions at the right time, with the least attention and manipulation, will be the hive of the future for all classes of honey-producers. Nothing can stop its adoption. The brood-chamber that holds but 8 Langstroth combs will much better accomplish these requirements than one with a greater capacity. It is better for wintering, as it holds the winter stores in a more compact form; (5 combs are better still). It is much easier to manipulate bodily.

"Critic" asks which we would rather take out of the hive at any time in the breeding season, "two dry combs or the queen." I unhesitatingly answer, the two dry combs; and as above stated, I did about 10 years ago take them out to stay; and on page 437 I have told how and why I remove 3 more at a certain time in the breeding-season. "Critic" says that he believes that the stronger a colony is, the more honey we get. I suppose, of course, that he means the more honey we get from that colony. I agree with him, as a rule, other things being equal. But that is not the proposition. The proposition with the specialist is this: Here is an unoccupied honey-area. I have some capital, physical strength, and knowledge of apiculture. Now, how, with what hive and system of management can I, with the least capital and labor, get the most surplus honey in the best marketable condition from this field?

With the bee-keeper operating in a field not fully stocked, the question is, with what hive and system of management can I realize the greatest dividend on the capital and labor invested and bestowed? It seems quite evident that "Critic" is not looking at apiculture in its broadest sense—the kind of bee-keeping that is going to supply the future markets. Considering durability and the kind of lumber needed, the cost of five 8-frame Langstroth hives, is not more than that of four 10-frame hives. The frames and combs number the same. I much prefer placing five, rather than four queens, with this capital. So placed, this extra queen will pay 10,000 per cent. on her cost in labor saved and comfort enjoyed.

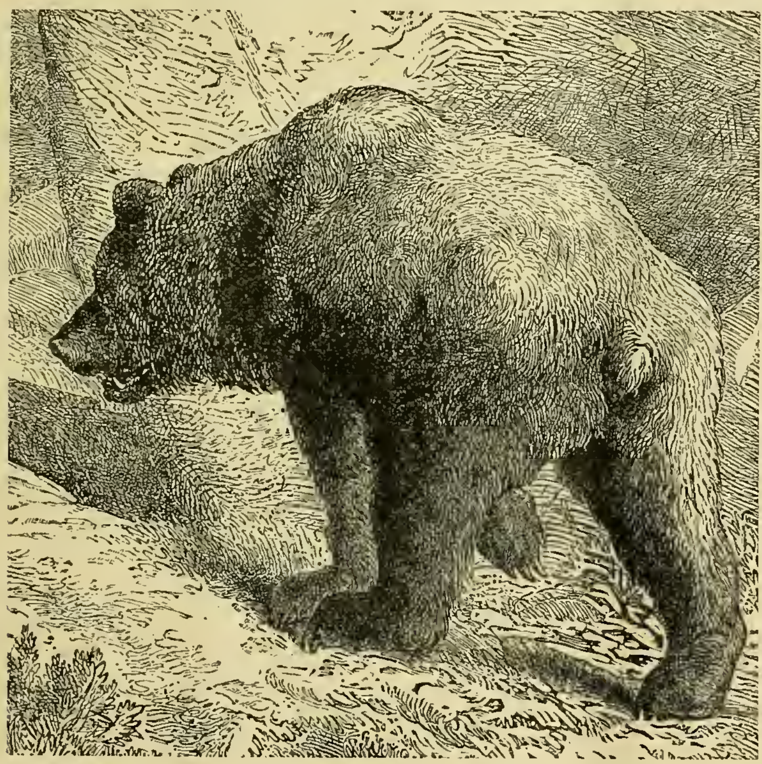
For producing extracted honey, I much prefer the 8-frame hive for reasons too numerous to add to this already lengthy article. The 10-frame Langstroth hive was once a standard; many have been the changes to both larger and smaller hives. Those that have enlarged their hives have returned; those that have contracted them have been pleased with their new position, and remained in it. This has been the rule, with but few exceptions.

Dowagiac, ♀ Mich.

For the American Bee Journal.

Grizzly Honey-Eater of California.

W. A. PRYAL.



Oft in our childhood days have we heard bear stories innumerable which made our slumbers of those days unpleasant ones. Though these animals are becoming scarce, and bear stories are not told now as frequently as they were in the past, still the animals are to be found in some parts of the United States, and occasionally we read in the daily papers accounts of their depredations among the farmer's flocks and the bee-keeper's bees; and sometimes of causing the death of some persons who were suddenly surprised by coming upon them unprepared.

To the sturdy pioneers of the West these monarchs of the mountain fastness were a source of annoyance. Many are the ugly encounters, severe wounds, hair-breadth escapes, and often fatal results of those who penetrated the unknown fastness of the mountain regions of our new country.

In California the grizzly bear was a thing with which the early seekers after gold cared not to come face to face. Not far from San Francisco there is a spot where a rancher thirty years ago was killed by one of these beasts. The place is not three miles from where I write, and is known as Grizzly Peak, and overlooks the State University building at Berkeley.

This reminds me of a young, tame grizzly bear that had such an attachment for its owner, who lived in one of the mining counties, that it would follow him where he went, and would moan in disappointment and distress whenever he took his rifle down for a hunting trip, and showed any signs of leaving it behind. On one occasion, when engaged in hunting, he shot at and wounded a large grizzly, and being unable to escape from his vengeance, was about falling a victim—his dog and the young bear set upon the enraged grizzly from behind, when he immediately turned to give them battle; in the meantime the hunter had regained his feet, got possession of his rifle, and from a shelter behind a tree, kept firing until the bear was killed, but not before his devoted animals were severely wounded.

To the farmer the grizzly has been, and in some localities is still, a depredator on his sheep and stock, and in a short while his flock is decimated greatly; and to the California apiarist his visits are not unknown. In the stilly hours of the night, when every thing is quiet, save now and anon the screech of an owl is heard about the trees by the brook, or the loud-voiced watch-dog down at the nearest neighbor barks at the moon, or at the approach of some unwelcome visitor, then his lordship comes stealthily prowling about the apiary in quest of bee-hives. Having a "sweet tooth" in his massive head which delights in smashing the waxen cells of the honey-comb and letting the luscious liquid trickle down his expansive throat, which, by the way, though it delights in quaffing nectar, still is about equally favorable to allowing some of the dainty morsels of the human body to descend the same route.

Some years ago I gave in these pages an account of the depredations of these monsters in some Los Angeles county bee-ranches, and how the owners laid in wait and treated the trespassers to a dose of cold lead. Some apiarists and stock-raisers, too, set poison for them, but when they can they prefer to practice with a rifle on them, and thus obtain a nice cut of bear steak. On this page is presented to the readers of the BEE JOURNAL a good illustration of one of these California grizzlies.

North Temescal, ♂ Calif.

For the American Bee Journal.

Discoveries in Cross-Fertilization.

CLARENCE M. WEED.

Few subjects are of more vital importance to bee-keepers just now, than that of the mutual relations of bees and flowers. Hence, some notes concerning the early history of the subject may be of interest, for if bee-keeping is to remain on a firm basis and not suffer from continual flings of fruit and flower growers, the public must be educated to a realization of the fact that bees do far more good than harm to the blossoms they visit; that to the flowers it is "a giving which is receiving," and that without such visitations many fruit-farms would be a failure.

Nearly one hundred years ago, a European naturalist, Christian Conrad Sprengel, while examining the blossoms of the wood crane's-bill (*Geranium sylvaticum*), a species nearly related to our common spotted crane's-bill (*G. maculatum*), discovered drops of honey hid below the inconspicuous hairs covering the lower portion of the petals. A little observation showed that this nectar could be easily reached by insects, but was so protected that rains could not wash it away. This led him to examine other flowers, and he discovered many similar instances, all of which he thought pointed to the conclusion that "the nectar of these flowers is secreted for the sake of insects, and is protected from rain in order that insects may get it pure and unspoiled."

For two years, from 1787 to 1789, Sprengel believed that the honey was secreted only for the benefit of insects; but in the latter years while studying the flower-structure of an iris, he found that there was no possible way in which the pollen of the stamens could reach and fertilize the pistils, unless some insect entered the blossom and brushed the pollen from the one to the other.

This was a "red-letter day" for Sprengel. Like a flood of light there burst upon him the idea that after all, the honey was secreted, not as a gratuitous gift for the special benefit of the insect world, but to attract insect visitors that the seeds of the flower might be fertilized, or, as some in these later days would say, pollenized—a term well worth using, as its meaning is clear and unmistakable.

This discovery gave a new impetus to Sprengel's studies, and he formed in it a plausible explanation of the forms of many flowers. For several years he continued his investigations, and in 1793 published his splendid work on "The Secret of Nature in the Form and Fertilization of Flowers Discovered."

But though Sprengel had done much to solve the question of the forms of flowers, the key-note remained unstruck. He saw only that insects aided in *self*-fertilization, and the great fundamental idea that unconsciously they carried the pollen from one flower to another, thus effecting *cross*-fertilization, and carrying out a great principle in Nature's economy, remained to be discovered.

A few years later Andrew Knight, another European botanist, after experimenting, stated that "in no plant does self-fertilization occur for an unlimited number of generations;" but not until the noted Chas. Darwin published his "Origin of Species," in 1859, did the great principle of cross-fertilization become fully understood. Thus the idea of the mutual beneficial relations of bees and flowers is of very recent origin—a fact which accounts in part, at least, for the vast amount of prejudice and ignorance now existing on the subject.

Chicago, ☌ Ills.

For the American Bee Journal

Apicultural Discussions, etc.

ABEL GRESH.

I would like to say a few words as to controversies carried on between noted bee-keepers. I dislike to see an advocate of the pollen "theory" stating premises that, if not utterly disproved, had at least reasonable doubt thrown upon them by an authoritative pen. Mr. G. M. Doolittle's experiments during the last severe winter were, no doubt, entered into honestly, and with a sincere desire to give a valued queen the best winter protection possible. After the bees died, Mr. Doolittle sent an honest sample of them to Prof. A. J. Cook, for critical examination, openly, and by the best authority known to our fraternity, who pronounced a portion of the bees as having died of diarrhea and showing no signs of pollen-grains in their intestines. In the face of all this I find that Mr. Heddon asserts, "No genuine bee-diarrhea can take place in a hive containing no pollen;" as if Mr. Doolittle and Prof. Cook were not on record to the contrary. True, the microscope of the Professor found small particles of pollen in the bottoms of some cells, and some dead bees with pollen in their intestines, but how came those bees to have the disease, in which no pollen was found? I hope that Mr. Heddon will not gravely inform us that after the disease is once generated, it becomes contagious.

CONTRACTING HIVES.

Again, I find on page 437, in referring to "the contraction method," Mr. Heddon, at the close of his article, says: "I notice that others have been cotemporary with me in working out the advantages of contracting, but so far as I have read, I have not as yet seen it systematized, as a summer and winter management." The very first article read by me, in the BEE JOURNAL, some years ago, by Mr. G. M. Doolittle, treated of his method of contracting his hive in winter and expanding it in summer, which interested me so much that I at once became a subscriber to the BEE JOURNAL.

Now, while Mr. Heddon's system, as described by him, as a method of contracting his hive, is very interesting and instructive, and the advantages to be derived from such a method are at once apparent, still the closing sentence seems unjust. I am not a believer in the pollen theory, nor do I use the Heddon hive, yet I am very fond of following the discussions of the former, and the latter I believe to be a decided improvement on the 10-frame hives; my only criticism consists in a failure to "give honor to whom honor is due."

TOO MANY SWARMS.

I wintered 23 colonies on the summer stands last winter, and they came through all right, and I have increased them to 47. Prime swarms in June are swarming again now. I allow no second-swarms, and yet I do not see where this swarming will end. I do not want so many, yet what can I do about it? The weather is very warm, and if I put them back, they will lie on the alighting-board and sulk. Honey is coming in but moderately. I sometimes think that swarming could be bred out of them. My few hybrids seem the most inclined to swarm. I hived one swarm last week on full frames of foundation, and to-day they were out twice. I found that they had only partially drawn out the foundation, formed cavities for cells, had an egg in each cavity, and then were ready to go. I destroyed the eggs and cavities, but they still want to go. They were the first swarm in the spring, having come out on June 5, and rather a medium swarm. My best Italian colony did not swarm until yesterday; they had partly filled two crates besides 12 sections below. The swarm was large, and I gave them a third crate of 27 one-pound sections.

SYRIAN BEES, ETC.

Prof. Cook, in the ninth edition of "The Bee-Keepers' Guide," thought well of Syrian bees, so far as tested; no doubt many of the readers of the BEE JOURNAL would like to know his opinion of them *now*, and whether his expectations of them were realized. Also, I would like to know whether he used sections in his hives $3\frac{1}{2}$x$5\frac{1}{4}$, and if so, how does he like them, and what does he think of them in general?

Weedville, ⊙ Pa., July 21, 1885.

For the American Bee Journal.

Bees Beneficial to Crops, etc.

4—E. C. EAGLESFIELD, (100—119).

After reading all that has been written about the sheep-and-bee suit, I think it would be doing an injustice to Mr. Freeborn, and the fraternity in general, if I did not at once send my $1.25 as a token of my appreciation of the situation in which Mr. F. is placed, and in which I or any other of the fraternity may be placed in the future. I hope every bee-keeper will consider this matter as they would were they in Mr. F's position, and act accordingly. Do not wait until you have sold your crop of honey, but *borrow* the money if necessary, and let us see in the next issue of the BEE JOURNAL a whole page of names of those who are willing to sustain the right.

I keep sheep, and bees, too, and can corroborate the statements made, that bees never molest them in the pasture if no more than five rods from the apiary. The only damage I that I know of my bees doing, is that done to my orchard; they have caused so much fruit to stick to the trees that they are breaking down. They look more like weeping-willows than apple trees.

People here who raise buckwheat are always complaining of bees injuring their crop, but they fail to give any evidence that it is so. I had a piece of buckwheat 10 rods from my 100 colonies, last fall, with 100 colonies more within $\frac{3}{4}$ of a mile, and if buckwheat was ever injured that ought to have been; but on the contrary it was an astonishing crop. A neighbor who helped me harvest it, counted upwards of 400 kernels from one stalk. I now have before me three stems which I saved last fall, and two of the stems are about an inch long, and one is $2\frac{1}{4}$ inches long. I will now shell the longest and see how many kernels it contains. Well, it has 67, and probably some had rattled off before. Now if any one doubts this I will mail them the two short branches as proof, as I always prove my assertions.

People who know nothing about bees have an idea that bee-keeping is a lazy but profitable business, and all the bee-man has to do is to put the boxes on and take them off; in the meantime to sit in the shade and see the bees do all the work. Yes, how they would like to keep bees if it were not for the stings!

A few words in regard to adulterating honey: Last fall, after selling 2,300 pounds of honey (mostly basswood), and having bought and fed for winter stores two barrels of coffee A sugar, I heard that it was being reported that I had fed my bees to make honey in sections, which costs me about 2 cents per pound, and I was selling it at a shilling; but that report was soon dropped when I offered $1,000 reward to any who would produce one ounce of such honey that I had sold, and I would give them the names of every person to whom I had sold honey, there being plenty of the honey yet unconsumed.

Poy Sippi,⊙ Wis.

For the American Bee Journal.

The Prime Cause of Bee-Diarrhea.

W. H. STEWART.

On page 393, Mr. Heddon says that he must insist that I am mistaken in my conclusions as written on page 343, that long continued cold is the first cause of bee-diarrhea; and as proof that I am mistaken, he quotes Mr. Shuck's statement, that bee-diarrhea can be produced "in a few hours in summer, with the temperature about 60°, by feeding diluted honey or sugar syrup." Mr. H. says that he "knows that he (Mr. Shuck) speaks truly;" and further, "that this shows the error of Mr. Stewart, and the truth of the pollen theory."

Now Mr. Heddon will please understand that I was not writing anything about a disease that bees are subject to, or may be forced upon them in warm weather. I understand that all this long discussion on the "pollen theory" has had reference to the diarrhea that is so destructive to our bees in winter. I am aware that we may by artificial means, freeze our bees as solid as ice, even in midsummer; also that we may give them a temperature equal to midsummer, when the mercury stands at 40° below zero in the open air; but all such statements and mechanical experiments do not help us out of our winter troubles with bee-diarrhea. I would not mix up the discussion of a detached or isolated point by bringing in far-fetched side-issues. I hold that it is better to confine ourselves closely to the subject if we would solve a problem.

How can Mr. Heddon think that I am mistaken in concluding that cold long continued is the first cause of bee-diarrhea in winter? He teaches the same on page 214, for he there says: "My opinion is, that when the temperature falls below a given point, in the hive, the bees add to the heat-producing method of consumption of oxygenized food, that of producing heat by exercise, and this exercise necessitates waste of tissue, and this the consumption of tissue-making food—bee-bread."

Now, if Mr. Heddon is correct in his theory, that the consumption of pollen or bee-bread is the cause of bee-diarrhea in winter confinement, any sane man must see that he teaches us that cold caused the bees to make extra exertion, extra exertion caused the consumption of tissue, the consumption of tissue caused the demand for pollen or bee-bread; and according to his theory, the use of pollen as food caused bee-diarrhea, and diarrhea was the cause of bee-death. In this chain of causes, is not cold the first link? Then, wherein am I mistaken?

But Mr. Heddon says on page 393, that "the pollen theory has to do with bee-diarrhea; not with bee-death." I have all the while understood that Mr. H., and his opponents, had been searching after the *first* link in this chain of causes, one link of which is bee-diarrhea, and the last link of which is bee-death, while in winter confinement. I think that Mr. Doolittle understands the matter the same. Now, Mr. H. cuts off the last link, bee-death, and it seems necessary, in order to keep the "pollen theory" good, to cut off all preceding links until he comes to the eating of pollen or bee-bread. If he would do thus, then why all this long discussion about first causes, prime causes, etc.? And again, why talk about "low temperature in the hive," waste of tissue, and extra exertion to produce more heat? These links have not to do with the "pollen theory," if bee-death has not.

I will admit that bee-diarrhea may be produced in summer by improper treatment, and also diarrhea in other animals the same. The same disease may be produced in the animal by various causes, and in many ways, and be the same disease every time; but that is not what we have been discussing. What we want to know is, what is the first cause, not what is an intermediate factor.

On page 214 Mr. Heddon says: "If pollen had not been *a* main factor in the cause of fecal accumulations in bees, the whole problem would long ago have been settled." Why did not Mr. H. say, if pollen had not been *the* main, or first, cause? I think that most of us are ready to admit that an over-eating of pollen or bee-bread may be an important factor in the cause or causes of bee-diarrhea in winter confinement; but that it is *the* cause, or first cause, is altogether another question.

I would thank Mr. Heddon and all others for what they can do to point out my real mistakes; truth is the only important lesson in all the ways of life. I am anxiously looking for Mr. Heddon's promised article on changing the winter stores of bees.

Orion,♀ Wis.

For the American Bee Journal.

Mr. D. A. Jones' Winter Report.

WM. F. CLARKE.

What with moving and other hindrances, I have been able to write very little for the press of late, but I have read the bee-periodicals pretty closely, and have been surprised that Mr. D. A. Jones' winter report has, apparently, provoked no criticism. It is to me a very astounding report, and "I want to know, you know," a little more about it. The success recorded in wintering bees during a winter of extreme severity is unparalleled. While such men as A. I. Root, Heddon, Hutchinson, Doolittle, and a host more that might be named, are still wrestling with the winter problem, our great Canadian apiarist seems to find it no problem at all. To him, wintering bees is "as easy as rolling off a log."

The report in question abounds in "glittering generalities," and is a grand exhibition of apicultural pyrotechnics. One is fairly dazed with wonderment, and dazzled well nigh to blindness with the brilliant results of a skill or luck in bee-management, never before attained in the annals of apiculture. Let us quit our discussions about the pollen, hibernation, and other theories. Mr. Jones has often told us that he has no bee-keeping secrets. He is ready and willing to tell every thing he knows. In the name of all the fraternity of bee-keepers who are trying their best to solve the winter difficulty, I call upon Mr. Jones to "rise and explain" how he has managed to winter his myriads of bees with a loss so trifling as hardly to be worth mentioning.

Mr. Jones does not tell us in exact figures how many colonies he put into winter quarters, nor precisely how many he lost, but "putting that and that together," the following are the conclusions at which I have arrived: First, as to the number of colonies wintered over: A home apiary of about 400 colonies is mentioned; "one of our bee-farms where we had about 250 colonies" is referred to; several clamps are spoken of, some of them holding from 80 to 90 colonies, and one smaller one, 50; besides an indefinite number of colonies in double-walled or chaff-packed hives. Adding these together without exaggerating, we reach the following sum total:

Home apiary	400
"One of our bee-farms"	250
This implies at least another bee-farm, say	200
Several clamps would mean at least 3, say two of 80 and one of 90	250
A smaller clamp of	50
Miscellaneous single hives, double-walled or chaff-packed, say	20
Total number of colonies	1,170

Now as to the losses: At the home apiary, consisting of about 400 colonies, there appear to have been no losses whatever, only some queenless colonies, but even these were "strong in bees." One of the clamps containing about 50 colonies "was stronger apparently than when put out in the fall"—"bees in extra fine condition." Again, "those wintered in-doors varied at the different apiaries, some slightly better than others, but *all in fine condition*." There were "some colonies, placed in winter quarters," which are described as having been "too weak in bees to keep up the temperature necessary to successful wintering, either in-doors or out. *A few of these succumbed.*" How many is a "few" of "some?"

Next we have a rather longer statement: "At one of our bee-farms where we had about 250 colonies, part were packed in clamps, and part in-doors; one of those packed in the bee-house died from starvation, the rest we put out in much finer condition than it has been our pleasure to have them for a long time. Those packed in clamps were in about equally as fine condition, but several were found to be queenless, and 2 colonies at one end of the clamp, where the rain had wet the packing, died from that cause, we suppose, as the packing was frozen solid to the hives." A degree of carelessness is confessed here, and it is added, "we paid the penalty in the loss of *two colonies*." A terrible "penalty" indeed!" The clamp contained "part" of 250 colonies—perhaps half the number, or say 100, which would be a loss of 2 per cent. Summing up, we arrive at the following "leetle" total: A "few" of "some," call "some" 20, and a "few" 5 colonies; from "starvation" in bee-house, 1; frozen rain in clamp, 2; total, 8.

The queenless colonies that were "strong in bees" cannot be counted in with losses. A few queens ordered from the South would make them all right. Out of 1,170 colonies, I am only able to make out 8 lost—about ¾ per cent. This is marvellous! magnificent!! glorious!!! What better can we desire than this? Truly the millenium of bee-keeping has been reached in Beeton, Ont. Old Boreas is conquered, slain outright. Again I say, what is the use of pestering ourselves about pollen, hibernation, or any other theories, in view of such a result as this? We have only to take our places as meek disciples at Mr. Jones' feet, and let him teach us how to do it.

Guelph, Ont.

P. S. Having read and pondered Mr. Jones' report once more since the foregoing was written, I am inclined to think I have underestimated the number of colonies he put into winter quarters, and over-estimated his losses. What he says, in plain figures, and equally plain statements, would imply, it seems to me, fully 1,500 colonies when winter set in. Five is a rather large figure for a "few" of "some." Three or four would probably be nearer the mark. Thus the winter loss would barely reach a half per cent. "*Mirabile dictu!*" But, observe, I do not say, "*Incredibile dictu!*" W. F. C.

For the American Bee Journal.

Apis Americana, etc.

G. J. MOLONEY.

Prof. Fowler, the noted phrenologist, advises a union of opposite temperaments and blood for the benefit of the physical constitution of posterity; those with large perception with those deficient in reflective organs, and *vice versa*, are advised to select partners for life among those who are well developed where they are weak, in the above named mentalities. "*Apis Americana*" may, perhaps, be developed exactly in the same manner as advised by the phrenologist in producing a superior race of bipeds.

For instance, did the Italian bees possess the quickness of the German bees in ascending to the surplus boxes, and their comb-honey-producing properties; and did the Germans have the longer proboscis and gentleness of the Italians, we would, no doubt, to-day, have "the coming bee." These desirable qualities can only be produced by crossing.

Prof. Cook, our greatest apicultural authority, says that there is no objection to cross-breeding bees, as is frequently done in cross-breeding cattle, sheep and horses; and that "by judicious crossing and careful selection we shall surely reach such results that shall be to the bee of the day, what the sleek short-horn is to the lean Texan kine of the Western plains." Some, however, claim that hybrids deteriorate, and that they are inferior to either race in their purity. As well might we say that the pointer dog, the race-horse, the game and Plymouth Rock fowls, and also the English and American people, which are emphatically crosses, have deteriorated. There are, no doubt, "catch hybrids" bred by carelessness and accident having those inferior qualities.

The clarion note by Mr. Heddon, summoning bee-keepers to the defense of Mr. Freeborn, should at once be answered favorably from all quarters. The age of chivalry is not yet gone, nor will the glory of bee-keeping be extinguished. Self-interest is the lever that moves the world, and bee-keepers seem to be imbued with something of the spirit of their little pets—peaceable if not disturbed, but capable of defense when attacked.

Ocqueoc, ♂ Mich.

The National Bee-Keepers' Union.

CONSTITUTION.

Article I.—This organization shall be known as the "National Bee-Keepers' Union," and shall meet annually, or as often as necessity may require.

Article II.—Its object shall be to protect the interests of bee-keepers, and to defend their rights.

Article III.—The officers of this Union shall consist of a President, five Vice-Presidents, and a General Manager (who shall also be the Secretary and Treasurer), whose duties shall be those usually performed by such officers. They shall be elected by ballot, and hold their several offices for one year or until their successors are elected and installed; blank ballots for this purpose to be mailed to every member by the General Manager.

Article IV.—The officers shall constitute an Advisory Board, which shall determine what action shall be taken by this Union, upon the application of any bee-keepers for defense, and cause such extra assessments to be made upon all the members as may become necessary for their defense.

Article V.—Any person may become a member by paying to the General Manager an Entrance Fee of ONE DOLLAR to the Defense Fund, and an annual fee of 25 cents, for which he shall receive a printed receipt making him a member of this Union, entitled to all its rights and benefits. The annual fee shall be due on the first day of July in each year, and MUST be paid within 30 days in order to retain membership in this Union.

Article VI.—Donations of any amount may be made at any time to the Defense Fund, in addition to the entrance and membership fees and the regular assessments made upon the members by the Advisory Board.

Article VII.—The Defense Fund shall be used for no other purpose than to defend and protect bee-keepers in their rights, after such cases are approved by the Advisory Board, and shall only be subjected to Drafts regularly made in writing by the Advisory Board.

Article VIII.—The annual fees paid by the members shall become a general fund, from which shall be paid the legitimate expenses of this Union, such as printing, postage, clerk-hire, etc.

Article IX.—Meetings of this Union shall be held at such times and places as shall be designated by the Advisory Board, or upon the written requisition of ten members.

Article X.—This constitution may be amended by a majority vote of all the members at any time.

LIST OF MEMBERS AT THIS DATE:

Addenbrooke, W.,
Allen, Ransom,
Anderson, J. Lee,
Anderson, Wm.,
Angell, C. S.,
Baldwin, B. T.,
Barnes, Wm. M.,
Baxter, E. J.,
Bernschein, Ernst,
Besse, H., M. D.,
Bitzer, Wm.,
Bohn, Gustav,
Bray, Moses,
Brickey, Peter,
Buchanan, J. W. & Bro,
Burrell, H. D.,
Burton, L.,
Carder, A.,
Chapman, J.,
Cheney, H. H.,
Clarke, Rev. W. F.,
Connley, John T.,
Cook, Prof. A. J.,
Cripe, Henry,
Dadant, Chas.,
Dadant, C. P.,
Darby, M. E.,
Dayton, C. W.,
Decker, A. A.,
Demaree, G. W.,
Dibbern, C. H. & Son,
Dickason, T. B.,
Dittmer, Gus,
Dodge, U. E.,
Doolittle, G. M.,
Downs, Robert,
Drane, E.,
Dunham, P.,
Dunn, John,
Eaglesfield, E. C.,
Eastwood, L.,
Elwood, Sr., W. R.,
Feathers, Harvey,
Flanagan, E. T.,
England, P. J.,
Follett, Charles,
Forbes, W. E.,
France, E. & Son,
Freeborn, S. I.,
Fulton, W. K.,
Funk, H. W.,
Furness, Dwight,
Gander, A. M.,
Green, Charles H.,
Greening, C. F.,
Gresh, Abel,
Grimm, Christopher,
Harlens, J. G.,
Hatch, C. A.,
Havens, Reuben,
Hayhurst, E. M.,
Heaton, J. N.,
Heddon, James,
Hensley, J. P.,
Hettel, M.,
Hill, A. G.,
Hills, Mrs. H.,
Hilton, George E.,
Hoke, Abe,
Hollingsworth, C. M.,
Howard, J. B.,
Hoyle, George H.,
Huse, Wm. H.,
Hutchinson, W. Z.,
Hyne, James M.,
Jones, George W.,
King, D. N.,
King, T. Frank,
Langstroth, Rev. L. L.,
Le Roy, J. W.,
Ludkey, Charles,
Ludloff, K.,
Maddox, W. T.,
Mallory, S. H.,
Marden, Henry,
Margrave, J. W.,
Mason, Jas. B.,
Mattoon, Jas.,
McConnell, James,
McCormick, Emery,
McNay, Frank,
McNeill, James,
Millard, D.,
Miller, B. J. & Co.,
Miller, Dr. C. C.,
Miller, Henry,
Mills, L. D.,
Mionich, F.,
Minor, N. L.,
Muth-Rasmussen, Wm.,
Nelson, James A.,
Newman, Alfred H.,
Newman, S. M.,
Newman, Thomas G.
Nipe, James,
Pennoyer, L. A.,
Peters, Geo. B.,
Phelps, N. T.,
Pond, Jr., J. E.,
Powell, E. W.,
Pray, G. L.,
Rainey, Jarvis,
Rey, John,
Reynolds, M. G.,
Root, A. I.,
Rowe, David,
Roye, Burr,
Schaper, E. F.,
Scheuring, Paul,
Secor, Eugene,
Shapley, D. L.,
Shearman, J. O.,
Shirley, W. H.,
Smith, George,
Spady, Jno.,
Spencer, M. L.,
Stearns, J. R.,
Stephenson, H. W.,
Stephens, W. R.,
Stewart, W. H.,
Stolley, Wm.,
Storer, E. M.,
Talbert, M.,
Thatcher, Will.,
Theilmann, C.,
Thompson, Geo. M.,
Tinker, Dr. G. L.,
Tongue, L. N.,
Travis, F. W.,
Travis, I. A.,
Trimberger, John,
Turner, T. E.,
Tyner, Alonzo,
Vanhouten, C. W.,
Viallon, P. L.,
Walton, Col. R.,
Webster, H. S.,
Whitney, W. V.,
Wicherts, A.,
Wilkins, Miss Lucy A.,
Wolcott, Wm. C.,
Wright, W. D.,
Zwiener, H. L.

☞ All who intend to be systematic in their work in the apiary, should get a copy of the Apiary Register and commence to use it. The prices are as follows:

For 50 colonies (120 pages)..............$1 00
" 100 colonies (220 pages)...... ...... 1 25
" 200 colonies (420 pages)............. 1 50

The larger ones can be used for a few colonies, give room for an increase of numbers, and still keep the record all together in one book, and are therefore the most desirable.

SELECTIONS FROM OUR LETTER BOX

Excessive Swarming.—Dr. J. C. Thom, Streetsville, Ont,, on July 24, 1885, says :

My bees have swarmed excessively. Honey-gathering has been only medium so far, and basswood is just out. The weather is hot, and perhaps we will yet obtain some surplus honey here.

"All's Well that Ends Well."—J. W. Margrave, Hiawatha,♂ Kans., on July 27, 1885, writes :

I have had only a trifle of honey so far. I saved only one queen and about a teacupful of bees out of my 53 colonies that I put away last fall. I obtained 14 one-frame nuclei and one pound of bees, and a tested queen, and I now have 30 colonies in pretty good condition for the August honey-flow (if we get it), and I hope for the best. One gain we can boast of in losing our bees all around us is, we have gotten pretty much clear of black bees, which we were trying to do.

Basswood Almost a Failure.—I. A. Travis, Lyons.○↘Wis., on July 27, 1885, says :

I have taken a deep interest in the National Bee-Keepers' Union ever since it first started, and I send $1.25, the amount due from me, and what I consider due from every bee-keeper in the United States. Fellow bee-keepers, let us rally at once and make up a large list, bearing in mind that it is only the strongest colonies that gather the greatest amount. The honey season is nearly closed, with but a small yield of honey. White clover did not seem to have much nectar in it, and basswood is almost a failure.

Value of Sweet Clover for Bees.—Reuben Havens, Onarga,○→ Ills., on July 21, 1885, says :

I have just looked over the list of names of the members of the Bee-Keepers' Union —less than 100 names ! when there should be 1,000, Come, fellow-bee-keepers, let us "be up and doing ;" say but little, but be ready for action. The white clover harvest is nearly closed, with but a moderate supply of surplus. Bees are in fine condition, and are now working finely on sweet clover, of which I have but one acre. O, for ten acres of it ! It would put $200 into my purse. Sweet clover and catnip would pay a big profit for the expense of cultivation. There are large quantities of catnip along the hedges here, and the bees are working freely on it.

Honey and Wool. — Rev. W. F. Clarke, Guelph, Ont., writes :

I am in entire sympathy with the Bee-Keepers' Union. Tennyson said in his ode in honor of Mrs. Wales : "We are all Dane in our welcome of thee !" So we are all American in our sympathy with the persecuted Wisconsin bee-keeper. It is a most insane suit, and must ultimately end in failure, but a bold, united front must be presented to the enemy. It is, as all doubtless know, a popular saying in England, that "where there is the best honey, there is the best wool." Is this going to be reversed in the United States ? I trow not ; not if we know ourselves, and we think we do. The proverb is a true one.

Very Satisfactory Season.—H. R. Boardman, East Townsend,♂ Ohio, on July 27, 1885, says :

The honey season, which closed about July 20, has been very satisfactory here. The yield of honey has been very good and of most excellent quality. Bees have swarmed more than usual. Basswood has been the principal source of surplus ; it has been the best I ever knew. I have practiced the plan, in part, advocated by Mr. Hutchinson—hiving swarms upon empty frames on the old stand, and it has been quite satisfactory. I have also used natural comb starters in the sections with good results.

"Driving Bees," etc.—J. H. Andre, Lockwood,♀ N. Y., writes :

I think that in a good season "driven" bees will store enough honey to winter on if "driven" late in July, and if foundation is used ; that is, in some localities where buckwheat is sown. I notice that some think my theory in regard to the sheep-and-bees suit is a fallacy, while others corroborate my opinion. What is wanted is old, reliable bee-hunters—not bee-keepers—to show up the fallacious idea of proving that they were Mr. Freeborn's bees. How would it look to compel a man to pay damage for his tame crow pulling corn one mile away, over a piece of woods (when there might be a dozen nests of wild ones in the woods), because his crow went that way. I send a clipping taken from the "Rural Home," Rochester, N. Y., and it is a part of an article that I sent to the BEE JOURNAL a few weeks ago. It seems to me they ought to give credit to the paper in which it appeared originally, if not to the writer.

[It is getting to be a very common thing for agricultural papers to copy articles without giving credit—hardly a day passes without giving some evidence of this. We lately noticed a whole column article written by us and published last December in the BEE JOURNAL, copied into an agricultural paper without credit. We are always glad to have articles copied, but due credit should always be given.—ED.]

That Foolish and Malicious Lawsuit.—Wm. C. Wolcott, Eldorado Mills,○→ Wis., writes :

I send 25 cents as my fee to join the National Bee-Keepers' Union, and $1 for the purpose of defending the interest of bee-keepers against such foolish and malicious lawsuits as the one brought against Mr. Freeborn for his bees attacking his neighbor's sheep. If that is a fact, he must have a different race of bees than any other bee-keeper that I ever heard of. If more is needed to defend such suits, I am willing to pay my share.

Wintering Bees on Natural Stores.—R. A. Morgan, Columbus,⊙ Wis., on July 23, 1885, writes :

In regard to Mr. Heddon's letter, on page 443, in reference to wintering bees on natural stores without excrement after long confinement, I would say that in the fall of 1881 I put 259 colonies of bees into three cellars, and took them out on April 5, 1882, after a confinement of 141 days, and they flew as freely and as easily as they did on the day they were put in ; and there was no excrement that was visible even on newly-painted boards. Their stores were strictly white clover honey, gathered in a prairie country. This is a statement of the facts as nearly as I could perceive them. There was a dust on the bottoms of the hives which I supposed to be the pieces of old comb which had been cut away for breeding purposes. Contrary to the common theories I have always found that the colonies which bred most, wintered the best ; and that a low degree of temperature is the cause of all wintering troubles. The most of the bee-men in fighting against cold, defeat their own cause.

Fertilizing Queens, etc.—J. L. Pinkerton, Lebanon,⊙ Mo., on July 23, 1885, says :

The honey season has been one of the poorest on record in this section. Bees have done nothing in the section-boxes yet. They are now beginning to come in laden, being at work on the white sumac, and as there is considerable white clover yet, we hope to get some honey. A friend of mine had a colony that became queenless in the spring ; he obtained a frame of brood and eggs from a neighbor, and gave it to them, when they immediately uncapped the brood and stuck their heads foremost into cells in the adjoining combs. What was the cause of this ? I never knew of such a case. Another friend has heard of the plan of fertilizing queens while in the larval state, by means of drone-larvæ, and has been asking me about it. Will any correspondent enlighten us through the columns of the BEE JOURNAL ?

Poisoning Bees.—Moses Bray, New Almaden,←○ Calif., on July 17, 1885, writes :

Although I will not have a pound of honey to handle from the 1885 crop, yet I cannot afford to ignore the Bee-Keepers' Union, as I do not know how soon I may be in jeopardy. I would suggest that the idea of making a party prove by marks on the bees, etc., be dropped. If a party poison my bees, I would not like to be asked to prove by marks that they were my bees. A lady but a few miles from my apiary was guilty of poisoning bees last season near my place. They were trespassing on her grapes. She said that it was a decided success, and one could see the bees lying dead on the ground. An act of this kind should be considered a misdemeanor, without stopping to find out whose bees had been poisoned, and punished accordingly.

Methods of Managing Bees, etc.—D. L. Shapley, Randallsville,⊙ N. Y., on July 18, 1885, says :

If each one who writes for the BEE JOURNAL would give a carefully prepared statement as to how they manage with their bees both during summer and in winter, I think it would be a great help to any one just starting in the business ; also to old bee-keepers, for the way one does in one locality might prove destructive in another. I think this would give information so that one could tell what would be best in that locality in which he might wish to start an apiary. I have lost only 3 colonies since I commenced, three years ago—one through carelessness and ignorance, one by queenlessness, and one was robbed. I do not know whether it is my good luck or what, but it seems strange to me that so many lose heavily, and I, a beginner, not having lost any to speak of. I had 20 colonies to commence with last spring, and all have swarmed except one ; they are just beginning to get honey from basswood. The white clover harvest was very light, as there was only three or four days that bees could work on it ; but everything previous to that yielded bountifully, and we are expecting a heavy crop from basswood, if the weather is favorable.

Replacing Worn-Out Queens.—L. L. Triem, Laporte City,⊙ Iowa, on July 21, 1885, says:

I form 2-frame nuclei by placing the hive containing these close beside the colony containing the worn-out queen, the entrances of both hives facing in the same direction. Immediately after the close of the white honey season, I take away all the combs from the hive containing the old queen, and give them to the nuclei; the old bees may be used up by giving them one comb of honey and filling the balance of the hive with wired frames of foundation. The combs should be stored away for the next season's use. By this plan no good young queen need be lost, which is of importance. This plan has its faults, however, as have other plans.

Bees Have Done Well.—Wilson Sherman, Chester Center,⊙ Iowa, on July 24, 1885, writes:

My bees have done well so far this season. Over half of them have produced over 100 pounds per colony. White clover has been a good crop in this section; it is about done blossoming for this season. The bees are working lively on buckwheat at present. I think there will be a good honey-yield here this fall, for there have been large rains every 24 hours for about a week. I have increased 8 colonies to 22; one colony swarmed 5 times, and they were large swarms, too. I have used the Heddon plan of preventing after-swarms, on half of my colonies, and it has been a perfect success. I am intending to take all the natural stores away from my bees this fall, and feed them sugar syrup, as I think that pollen is the cause of our winter losses.

Queen Going to Another Hive.—Robert Corbett, Manhattan,♂ Kans., writes:

I had taken a black or hybrid queen and started a nucleus for the sake of preserving her for a little while. The weather being cool, I was obliged to feed her a little. In the meantime I had taken an Italian queen from a strong colony that was about 20 feet away from the nucleus (I think for two days I had neglected feeding or supplying her with the necessary food; be that as it may, I do not know), and when the time arrived that I expected queen-cells to be well developed, I proceeded to open the hive, and to my astonishment I found the black queen in the Italian colony, working with a will. But then, how did she know the colony was queenless? That is where the instinct comes in.

Good Season for Increase and Honey.—Abe Hoke, Union City,○+ Ind., on July 27, 1885, says:

I put into winter quarters 25 colonies in good condition, and well protected as follows: Fourteen in doubled-walled brick hives with 6 to 8 inches of dry sawdust on top of this, and of those I lost 8. I had 5 colonies in wooden hives packed all around with dry sawdust, and of these I lost 3. I had 6 in straw hives, and of these I lost none, and they were packed as above. The season up to this time has been pretty good for increase, and also for honey—the best for years—but to-day the bees are looking up honey without going to the fields—not a good sign for much more honey. I have taken about 400 pounds of honey in two-pound sections. There is no sale here for extracted honey. More than one-half of the bees in this section went to sleep last winter and forgot to wake up. My loss was 11 out of 25. I now have 29, having sold 6.

Good Fall Crop Expected.—J. W. Clark, Clarksburg,⊙ Mo., on July 18, 1885, says:

Basswood and clover have given only a small crop of honey, on account of there being too much rain. The pastures were white with clover, and the bees are still working on them some, but they get very little honey, as shown by a colony on scales. Bees are driving out the drones and robbers. They are also working on catnip, mustard, and horse-mint now. Carpenter's-square and buck-bushes are beginning to open; prospects are good for the fall or yellow flowers.

Button-Ball Bush.—G. W. Ashby, Valley Station,♂ Ky., sends specimens of a flower and writes thus:

I send some blossoms that grew on a small bush that the bees seem to be very fond of. I have seen nothing said about it in any of the books enumerating the honey-plants—at least no description by which I can identify it. It seems to be a bush filling a vacancy or dearth of honey-secreting plants in July. I send a ripe flower, or one commencing to wilt, one in full bloom, and one not yet open, with its honey-secreting tubes. It grows along the margin of ponds and places that dry up in summer. Please give its name and value as a honey-plant.

[This is the button-ball bush (Cephalanthus occidentalis). The flowers have a considerable quantity of nectar, but the noted family to which the species belongs (Madder family) is not celebrated in this particular. The coffee-tree belongs to the same order.—T. J. BURRILL.]

Bees and Buckwheat, etc.—Geo. Duffy, Austin,○– Minn., writes:

I have read some in regard to the suit about bees doing damage to sheep. This seems even more absurd than the idea that bees damage buckwheat or fruit of any kind while in blossom, and this, I think, is the most unreasonable of all unreasonableness. My experience in raising crops of buckwheat is, that I have harvested and threshed just as great a quantity, and just as good a quality (all other things being equal), in proportion to the amount of ground sown, from crops that they have worked on, and that was literally alive with them while in blossom, as I have from crops on which I never saw a honey-bee. The same is true in my experience with small fruit, plums, apples, etc. My opinion is that such a case as the Powers-Freeborn, will never be tried in any court of equity in this free country; if it is not withdrawn, it surely will be dismissed. There can be no cause of action; for as Mr. G. M. Doolittle truthfully says on page 405, to furnish the required proof of whose bees did the damage foolishly claimed to have been done, seems utterly impossible. However, if such a case is carried on (as they say wonders will never cease), I would not like to be counted out as one not willing to contribute the $1.25 to such a cause.

Basswood and Whitewood.—K. O. asks for information as follows:

For a number of years I have tried to raise basswood trees from the seed, but I signally failed each time. I once sent away for some whitewood seed, and instructions came, but no seed at all. It may be cheaper to buy the trees, but there is great satisfaction to plant the seed one's self. Will some one who has had experience in raising these trees, please inform me how to save and grow the seed from these two varieties of trees?

Consumers Instead of Producers.—A. S. Goodrich, Worthington,⊙ Ohio, on July 28, 1885, says:

The honey season is a failure here, there being no surplus. My bees were very weak last spring, but I had them built up just in time to be consumers instead of producers.

The "Busy Bee."—David Rice, Lebanon,+○ Oreg., on July 22, 1882, says:

This season is like the last, there being a poor honey yield. Quite an interest has sprung up, in this vicinity, in the interest of the "busy bee."

Honey and Beeswax Market.

Office of the AMERICAN BEE JOURNAL,
Monday, 10 a. m., Aug. 3, 1885.

The following are the latest quotations for honey and beeswax received up to this hour:

CHICAGO.

HONEY—This week has brought on the market some of the new crop, which is being held at 15c. per lb. for white comb. There is not any comb honey of the crop of 1884 worth mentioning here now. Extracted offerings are rather free; prices are unchanged—5@7c per lb.

BEESWAX—22c. for yellow.

R. A. BURNETT, 161 South Water St.

BOSTON.

HONEY.—We quote the following prices: Fancy white comb in 1-lb. sections, 16@18c.; the same in 2-lb. sections, 14@15c; fancy white California 2-lbs., 12@14c. Extracted weak, 6@8c. Sales very slow.

BEESWAX.—30 cts. per lb.

BLAKE & RIPLEY, 57 Chatham Street.

NEW YORK.

HONEY—The honey market is very quiet, and will continue so until fall trade opens up. Some old stock is on the market yet, with small shipments of new comb honey arriving. Southern extracted honey is coming in very freely. Quotations are as follows for comb honey: Fancy white in 1-lb. sections, 14@15c; fair to good in 1-lb. sections, 12@13c; fancy white in 2-lb. sections, 13@14; fair to good in 2-lb. sections, 11@12c; fancy buckwheat in 1-lb. sections, 9@10c; fancy buckwheat in 2-lb. sections, 7@8c. Extracted white clover, 6@7; buckwheat, 5@6c; Southern, per gallon, 55@65c.

BEESWAX—Prime yellow, 25@28c.

MCCAUL & HILDRETH BROS., 34 Hudson St.

CINCINNATI.

HONEY—The market is quiet with fair demand for extracted, and an abundance of offerings from commission houses and producers. Prices range between 4@8c on arrival. There is but little new comb honey in the market, with an occasional demand. Prices nominal.

BEESWAX—Is in fair demand with liberal offerings, and brings 20@24c on arrival.

C. F. MUTH, Freeman & Central Ave.

SAN FRANCISCO.

HONEY—The market is quiet, there being no shipping demand and not much local trade. There are receipts of both old and new. One lot of 200 cases of old extracted arrived from San Jose. White to extra white comb, 7@9c; dark to good, 4@6c; extracted, choice to extra white, 4¾@5¼; amber colored, 4@4½.

BEESWAX—Quotable at 24@25c—wholesale.

O. B. SMITH & CO., 423 Front Street.

CLEVELAND.

HONEY—Is very dull just now during strawberry time, and although we hold at 14@15c per lb. best white 1-lb. sections, it is merely nominal, as there are no transactions. As soon as our people have satisfied their craving for acid fruits, they take very kindly to nice white honey, and we may look with confidence to a good demand in July, August and September.

BEESWAX.—Scarce at 28@30.

A. C. KENDEL, 115 Ontario Street.

KANSAS CITY.

HONEY—No change in prices to note. Shippers and buyers both holding off, with some concessions in favor of buyers. Nothwithstanding the short crop reported in California, sales are still being made there at about the same prices as in the spring, and some new honey is quoted there at 4c., for extracted. We quote choice white 2-lb. sections comb at 12c; 1-lb., 13@14. Extracted, 5@7c.

BEESWAX—Weak at 20@25c.

CLEMONS, CLOON & CO., cor. 4th & Walnut.

WEEKLY EDITION
OF THE
AMERICAN
ESTABLISHED IN 1861
OLDEST BEE PAPER IN AMERICA
BEE JOURNAL
PUBLISHED BY
THOMAS G. NEWMAN & SON,
PROPRIETORS,
923 & 925 WEST MADISON ST., CHICAGO, ILL.
Weekly, $2 a year; Monthly, 50 cents.

ALFRED H. NEWMAN,
BUSINESS MANAGER.

Special Notices.

Make all Money Orders and Postal Notes payable at Chicago, Ills.—Some country postmasters insist on making such payable at some sub-station of Chicago, but we want them drawn on the *main office.*

◆

☞ A copy of "Col. J. B. Clark's Grand Triumphal March," is on our desk. It is arranged for the piano by J. T. Warnelink, and is published by H. T. Knake, Pittsburgh, Pa. Price, 40 cents.

◆

☞ If your wrapper-label reads Aug. 85, please remember that your subscription runs out with this month. Renew at once, so as not to lose any numbers.

◆

To Correspondents.—It would save us much trouble, if all would be particular to give their P. O. address and name, when writing to this office. We have several letters (some inclosing money) that have no name; many others having no Post-Office, County or State. Also, if you live near one post-office and get your mail at another, be sure to give the address we have on our list.

◆

Students' Songs is the title of a book on our desk. It is edited and compiled by Wm. H. Hills, a young Harvard graduate, and is published by Moses King, at Harvard Square, in Cambridge, Mass. Price, 50 cents.

◆

☞ For two subscribers for the Weekly BEE JOURNAL (or 8 for the Monthly) for one year, we will present a Pocket Dictionary, and send it by mail, postpaid.

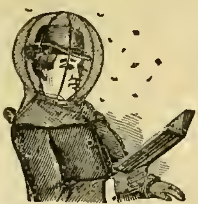
◆

Local Convention Directory.

1885. *Time and place of Meeting.*
Aug. 12-14.—Cedar Valley, at Waterloo, Iowa. A. D. Bennett, Sec.
Aug. 25.—N. W. Ill. and S. W. Wis. at Rock City, Ill. J. Stewart, Sec., Rock City, Ills.
Sept. 1, 2—W. N. Y. and N. Pa., at Salamanca, N.Y. A. D. Jacobs, Sec., Jamestown, N. Y.
Dec. 8—10.—Michigan State, at Detroit, Mich. H. D. Cutting, Sec., Clinton, Mich.

☞ In order to have this table complete, Secretaries are requested to forward full particulars of time and place of future meetings.—ED.

A NEW BEE-VEIL.



There are five cross bars united by a rivet through their center at the top. These bars are buttoned on to studs on the neck-band. The bars are of best light spring steel; the neck-band of best hard spring brass; the cover is of handsome light material. It is very easily put together, no trouble to put on or take off, and folds compactly in a paper box 6x7 inches by one inch deep. There would be no discomfort in wearing it either day or night, and the protection against Mosquitoes, Flies, Bees, Gnats, etc., is perfect. The weight of the entire Veil being only five ounces. **Price, by Mail or Express, $1.00.**

Special discount to dealers, on ½ dozen or larger quantities.

THOS. G. NEWMAN & SON,
923 & 925 West Madison St., CHICAGO, ILL.

BEE-KEEPERS' GUIDE;

Or, MANUAL OF THE APIARY.

12,000 SOLD SINCE 1876.
13th Thousand Just Out!
10th Thousand Sold in Just Four Months
3,000 Sold Since May, 1883.

More than 50 pages, and more than 50 fine illustrations were added in the 8th edition. The whole work has been thoroughly revised, and contains the very latest in respect to bee-keeping. It is certainly the fullest and most scientific work treating of bees in the World. Price, by mail, **$1 25.** Liberal discount to dealers and to clubs.

A. J. COOK, Author and Publisher,
1C1y Agricultural College, Mich.

☞ For sale also at the Office of the BEE JOURNAL, at wholesale or retail.

Friends, if you are in any way interested in

BEES OR HONEY

We will with pleasure send a sample copy of the **Semi-Monthly Gleanings in Bee-Culture,** with a descriptive price-list of the latest improvements in **Hives, Honey Extractors, Comb Foundation, Section Honey Boxes,** all books and journals. and everything pertaining to Bee Culture. *Nothing Patented.* Simply send your address *written plainly,* to
Ctf A. I. ROOT, Medina, O.

HEADQUARTERS IN THE SOUTH

For the manufacture of

Bee-Keepers Supplies

Dunham and Root Foundation a specialty. Italian Queens and Bees from March to November. ☞ Send for my Illustrated Catalogue.
5Ctf **PAUL L. VIALLON,** Bayou Goula, La.

(ESTABLISHED 1864.)

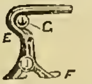
BEE-SUPPLIES.

We furnish EVERYTHING needed in the Apiary, of practical construction, and at the **lowest price.** Satisfaction guaranteed. Send your address on a Postal card, and we will send you our Illustrated Catalogue free. **E. KRETCHMER.**
2C12t COBURG, IOWA.

ACKERMAN'S

BOTTOM-BOARD HOOK

FOR HIVES.



A cheap and desirable contrivance for securing loose bottom-boards to the hives. It can be operated INSTANTLY. One sample set, by mail, **20** cents. One or more, by express, 15 cents each. For sale by

THOMAS G. NEWMAN & SON,
923 & 925 West Madison St., CHICAGO, ILL.

Dadant's Foundation Factory, wholesale and retail. See Advertisement in another column.

New and Enlarged Edition

OF

BEES and HONEY,

OR THE

Management of an Apiary for Pleasure and Profit; by

THOMAS G. NEWMAN.

Editor of the Weekly Bee Journal.

It contains 220 profusely illustrated pages is "fully up with the times" in all the improvements and inventions in this rapidly developing pursuit, and presents the apiarist with everything that can aid in the successful management of the honey-bee, and at the same time produce the most honey in its best and most attractive condition.

PRICE—Bound in cloth, $1.00; in paper covers, 75 cents, postpaid.

☞ **A Liberal Discount to Dealers, by the Dozen or Hundred.**

☞ The Monthly BEE JOURNAL for a year and the bound book, "Bees and Honey," will be sent for $1.25.

THOS. G. NEWMAN & SON,
923 & 925 West Madison St., CHICAGO, ILL.

R. HYDE, Alderly, Dodge Co., Wis.,

will send you full colonies of **ITALIAN BEES** in 8-frame Langstroth hives for $3.00 each. Satisfaction guaranteed. Order early. 31A2t

Dadant's Foundation Factory, wholesale and retail. See Advertisement in another column

Sweet Clover

— FOR —

BEE PASTURAGE.

IT MAY be sown on all waste places at any time, and will grow on any soil—in any climate. Price, 20 cents per pound; $2.75 per peck; $10.00 per bushel (60 lbs.)

THOS. G. NEWMAN & SON,
923 & 925 West Madison St., CHICAGO, ILL.

THE BRITISH BEE JOURNAL

AND BEE-KEEPER'S ADVISER.

The BRITISH BEE JOURNAL is published SEMI-MONTHLY, at Seven Shillings per annum, and contains the best practical information for the time being, showing what to do, and when and how to do it.

The British Bee Journal and our Weekly for $3.50: with our Monthly, $2.00 a year.

SEND POSTAL for Circulars of **BEES, QUEENS, COMB FOUNDATION,** etc., etc. Address,
G. H. KNICKERBOCKER, Pine Plains, N. Y.
23Dtf

"PRIZE QUEENS!"

ITALIAN QUEENS, tested, warranted, and fertilized, for sale at usual prices. Also Nuclei colonies, 2 frames each. Send for Circular. Dollar Queens ready to ship on one week's notice.
27D6t **E. L. BRIGGS,** Wilton Junction, Iowa.

My 17th Annual Price-List of Italian, Cyprian and Holy-Land Bees Queens and Nuclei colonies (a specialty): also Supplies—will be sent to all who send their names and addresses. **H. H. BROWN,**
17Dtf Light Street, Columbia County

ELECTROTYPES

Of Engravings used in the Bee Journal for sale at 25 cents per square inch—no single cut sold for less than 50c. **THOS. G. NEWMAN & SON,**
923 & 922 West Madison Street, Chicago, Ill.

DADANT'S FOUNDATION

is attested by hundreds of the most practical and disinterested bee-keepers to be the cleanest, brightest, quickest accepted by bees, least apt to sag, most regular in color, evenness and neatness of any that is made. It is kept for sale by Messrs.

THOS. G NEWMAN & SON, Chicago, Ill.,
C. F. MUTH, Cincinnati, O.,
JAMES HEDDON, Dowsgiac, Mich.,
KING, ASPINWALL & CO., 16 Thomas St., N. Y.
DOUGHERTY & McKEE, Indianapolis, Ind.,
CHAS. H. GREEN, Berlin, Wis.,
CHAS. HERTEL, Jr., Freeburg, Ill.,
E. L. ARMSTRONG, Jerseyville, Ill.
ARTHUR TODD, Germantown, Philadelphia, Pa.
E. KRETCHMER, Coburg, Iowa.
E. F. SMITH, Smyrna, N. Y.
C. F. DALE, Mortonsville, Ky.
EZRA BAER, Dixon, Lee Co., Ill.
CLARK JOHNSON, Covington, Ky.
C. A. GRAVES, Birmingham, Ohio.
M. J. DICKASON, Hiawatha, Kans.
ED. R. NEWCOMB, Pleasant Valley, N. Y.
J. W. PORTER, Charlottesville, Va.

and numbers of other dealers. Write for SAMPLES FREE and Price-List of Supplies, accompanied with **150 COMPLIMENTARY** and **UNSOLICITED TESTIMONIALS** from as many bee-keepers in 1884. **We guarantee every inch of our Foundation equal to sample in every respect.**

CHAS. DADANT & SON,
5ABly HAMILTON, Hancock Co., ILL.

Bees and Queens

HAVING purchased all the black bees within a radius of 6 miles, I now claim the LARGEST ITALIAN APIARY and best location for rearing **FINE QUEENS** in the State. I will continue to sell warranted Queens at the low price of **75** cents each. Extra selected tested (1885 rearing) **$1.50** each. Three L-frame Nuclei, every frame filled with brood, with selected tested Queen, **$3** each.

Address JAS. WOOD, North Prescott, Mass.
29A9t

WIN more money than at anything else by taking an agency for the best selling book out. Beginners succeed grandly. None fail. Terms free. HALLETT BOOK CO.
51Aly Portland, Maine.

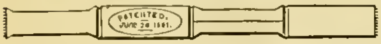
RED CLOVER QUEENS

by return mail.—I am now up with my orders, and can send Queens by **return mail.** My Queens are almost without an exception purely mated. My bees have worked just thick on red clover, from the time it bloomed until the present time.

30ABtf **J. T. WILSON,** Nicholasville, Ky.

"BOSS" ONE-PIECE
SECTIONS.

Patented June 28, 1881.


PATENTED, JUNE 28 1881.

One-lb. (4¼x4¼)	in lots of	500 to 4,000	$5.00
Ditto	Ditto	5,000 to 10,000	4.50
Ditto	Ditto	10,000 to 25,000	4.00

The one-lb. Section is 17 inches long. For any sizes between 17 and 20 inches in length, add 5 per cent. For any sizes between 20 and 24 inches, add 10 per cent. Add the above per centage to the price of one-lb. Sections in the same quantities.

We make any size or width desired.

J. FORNCROOK & CO.,
BCtf Watertown, Wis., Mar. 1, 1885.

☞ Thos. G. Newman & Son, of Chicago, sell the one-piece Sections manufactured by us.

Wooden Pails for Honey!

WE can furnish regular Wooden Water-Pails—well painted on the outside, and with 3 iron hoops and a tight-fitting wood cover, at **$2.25** per dozen. They will hold **25** lbs. of honey, and when empty, can be utilized for use as an ordinary household pail.

THOS. G. NEWMAN & SON,
923 & 925 West Madison Street, CHICAGO, ILL.

QUEENS by Return Mail!

AT THE FOLLOWING LOW RATES:

Bred from my **Best Strains** of **Italians** and **Albinos!**

Untested Queens	each	$ 1 00
" "	½ doz.	5 50
" "	1 "	10 00
Warranted "	each	1 10
" "	½ doz.	6 00
" "	1 "	11 00
Tested "	each	2 00
Selected Tested Queens	"	2 50

Descriptive Price-List free. Address all orders to

WM. W. CARY, - Coleraine, Mass.,
(Successors to Wm. W. Cary & Son.)

N. B.—On a single order for 50 Queens, we will give **10 per cent. discount** from the above list. 29Atf

Dadant's Foundation Factory, wholesale and retail. See Advertisement in another column.

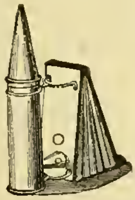
LOS ANGELES.

HOMES IN SOUTHERN CALIFORNIA.

"Stern winter smiles on that auspicious clime,
The fields are florid with unfading prime;
From the bleak pole no winds inclement blow,
Mould the round hail or flake the fleecy snow;
But from the breezy deep the bless'd inhale,
The fragrant murmurs of the western gale."
—Homer.

FULL information concerning the garden spot of the world, beautiful LOS ANGELES, THE LIVELIEST AND MOST PROSPEROUS SECTION OF THE PACIFIC COAST, furnished by the Los Angeles **Weekly Mirror** a mammoth 72 column PAPER, the best weekly in Californa SEND FOR IT. Single copy, three two-cent stamps; six months, **$1**; one year, **$2**.

Address THE TIMES-MIRROR CO.,
25A13t Los Angeles, Calif.



Bee-keepers' Supplies,

Standard Langstroth,

Quinby Standing-Frame,

And all other kinds of **Hives**,

MADE TO ORDER,

Quinby Smoker a specialty.

I shall supply anything you need in the Apiary. Send for Illustrated Price List.

W. E. CLARK, successor to L. C. Root,
7Aly ORISKANY, Oneida County, N. Y.

Dadant's Foundation Factory, wholesale and retail. See Advertisement in another column.

$200,000 *in presents given away.* Send us 5 cents postage, and by mail you will get *free* a package of goods of large value, that will start you in work that will at once bring you in money faster than anything else in America. All about the $200,000 in presents with each box. Agents wanted everywhere, of either sex, of all ages, for all the time, or spare time only, to work for us at their own homes. Fortunes for all workers absolutely assured. Don't delay. H. HALLETT & Co.
51Aly Portland, Maine.

Re-Written and Enlarged! Third Edition of the

BEE-KEEPERS' HANDY BOOK

300 pages and nearly **100** fine illustrations. Price by mail, nicely bound in cloth, **$1.50** per copy. Book and tested Queen of any race, by mail, $2.50. Book and sample Drone and Queen Trap, by mail, $2.00. Our Queens cannot be excelled for beauty, purity, mild disposition, honey-gathering and wintering qualities. All my Queens are reared at the "Api. bee-farm." Send for prospectus and price list.
22A16t **HENRY ALLEY, Wenham, Mass.**

Dadant's Foundation Factory, wholesale and retail. See Advertisement in another column.

1868. 1885.

HEDDON'S
COLUMN.

QUEENS

I am now prepared to SUPPLY PROMPTLY, Queens, reared from PURE ITALIAN mothers, with good chance of pure fertilization. Also, those of our own popular strain, viz: Crosses between our leather-colored Italians and large brown German bees, which possess, in an eminent degree, the desirable traits of the two races.

PRICES:

1	Selected Tested Queen	$ 2 00
6	" " Queens	10 00
12	" " "	18 00
1	Untested Queen	1 00
6	" Queens	5 00
12	" "	10 00

NUCLEI.

My nuclei colonies are in a complete little nucleus hive with 4 frames, so constructed that by removing their outer top-bars, two of them perfectly fit a standard L. frame on the inside. They are in first-class condition, well stocked with Brood and Bees, and will be sent promptly at the following

LOW PRICES:

1	Nucleus, with best tested Queen	$ 4 00
6	Nuclei, " " " Queens	21 00
12	" " " " "	40 00
1	Nucleus, with untested Queen	3 00
6	Nuclei, " " Queens	16 00
12	" " "	30 00

Take your choice between Pure Italians and my own strain of bees.

BEST GIVEN FOUNDATION.

Retail Prices:

Brood, per lb.	45c.
Surplus, "	55c.

☞ Write me for special prices on Foundation to "sell again."

CASH for WAX

20c. for yellow; darker grades a little less.

SEND YOUR ADDRESS

For my 32-page

CATALOGUE FOR 1885.

Address, **JAMES HEDDON,**
DOWAGIAC, Cass County, MICH.

WEEKLY EDITION
OF THE
AMERICAN
ESTABLISHED IN 1861
OLDEST BEE PAPER IN AMERICA
BEE JOURNAL

THOMAS G. NEWMAN,
EDITOR.

Vol. XXI. August 12, 1885. No. 32.

APICULTURAL NEWS ITEMS.

EDITORIAL AND SELECTED.

Truth and justice are eternal,
Beaming forth with heavenly light;
Selfish "sheep" men must not plunder,
What belongs to bees—by right!

The Golden Rods are blooming—the bees are gathering honey from them now.

The Honey Crop has been very good in some localities—in others it has been very poor.

Sweet Clover stands the heat so well, because its roots go to a great depth to get moisture.

Comb Honey should be kept in a warm, dry room, for it gathers dampness if such is in the air.

Honey Dew it seems played itself out last year, for there is none of it reported this season.

Baroness Burdette Coutts-Bartlett, in order to encourage bee-keeping among the working classes, has presented bee-hives to the holders of the gardens on the allotments at Highgate, London. The Baroness is the President of the British Bee-Keepers' Association.

It is said that a larger crop of apples may be grown when a hive of bees is stationed in the orchard. The pollen is rubbed from their bodies against the pistils of thousands of flowers, which thus become fertilized. Many of the strange freaks of hybridizing varieties, are due to the agency of bees.

Stings.—An exchange remarks that old bee-keepers rarely trouble themselves with the bee-sting remedies, but amateurs, and those in whom the flesh swells when stung near the eyes, often wish for something that will reduce the swelling and pain. The best remedy known to the writer is a tincture of plantain, made by pouring alcohol over the freshly-gathered leaves, and allowing it to remain until it turns black, when it is poured off and bottled. If this remedy is applied immediately after the wound is given, the swelling and pain will be scarcely perceptible. If the person is severely stung, a few drops of the tincture can be taken internally.

White Clover, says Mr. G. W. Demaree, "only secretes nectar after the dews have evaporated—*after* sheep and other stock have habitually retired to the shady places, etc."

How very stupid, therefore, it is to charge the bees with annoying sheep while feeding. Equally foolish is it to say that bees destroy the pasture for the sheep—without the aid of the bees in fructifying the flowers, the sheep would very soon have no pasture from the clover! This subject must be elaborated by the lawyers for the Bee-Keepers' National Union, at the trial.

"Maintain our Rights in the highest courts of the land, if necessary," says one of our correspondents. These are our sentiments; but that can be done only by having sufficient money to defray the expenses, and such are usually very high. To be sure it will be a small matter, if all who are to be benefitted, will bear their part of the burden. One thousand dollars of expense when divided between 1,000 persons is only a dollar for each, and can easily be borne; but when one has to pay it all, it becomes a heavy burden, and, to many, one that would be impossible to bear. This shows the value of co-operation and united effort. If this "suit" is to be maintained and carried to the higher courts, there must be a united effort—a "Union"—to bear the expense. One thing is very astonishing, and that is that there are so *few* who feel it a *duty* to become members of such a Union. Unless the bee-keepers arise in a body, and *assert their rights*, who will respect those rights? and who will defend them, if they neglect to do their duty?

Apicultural Experiments.—As mentioned on page 403, an Experimental Agricultural Station has been established at Aurora, Ills., in connection with the Entomological Division of the Department of Agriculture. Mr. Nelson W. McLain has been appointed to take charge of the Station, and Prof. Riley has instructed him to pay particular attention to these subjects:

> To secure the introduction and domestication of such races of bees as are reported to possess desirable traits and characteristics.
>
> To test the claims of such races of bees as to excellence, and to prove by experiments their value to the apiculturists of the United States, and their adaption to this climate and honey-producing flora.
>
> To make experiments in the crossing and mingling of races, and, by proper application of the laws of breeding, endeavor to secure the type or types best adapted by habit and constitution to the uses of practical bee-keepers in the United States.
>
> To make experiments in the methods of artificial fertilization, also to test the various methods of preparing bees for winter.
>
> To gather statistics concerning the bee-keeping industry in the United States.
>
> To make experiments with and observations concerning varieties of honey-producing plants for bee-forage.
>
> To study the true cause or causes of diseases yet imperfectly understood.
>
> To obtain incontestible results by intelligent experiments upon scientific methods as to the capacity of bees, under exceptional circumstances, to injure fruit—*i. e.*, to set at rest the ever-discussed question of bees *vs.* fruit.

Mr. McLain is well-qualified for this work, and we are very glad to learn that arrangements are now being made for thorough experiments, as directed by Prof. Riley. We look for very interesting results, and shall keep our readers well-posted concerning them.

Laying Workers are often developed in queenless colonies, if such colonies are not supplied with eggs or brood from which to rear a queen. Look out for such a state of affairs, and see that these pests—laying workers—are not allowed to ruin queenless colonies.

Bees and Poultry.—But few out-door pursuits go so well together as bees and poultry. Give the poultry the necessary attention in the morning and evening, and give the bees such of the time between as becomes necessary. We have made arrangements by which we can supply the American Poultry Journal (price $1.25) and the Monthly BEE JOURNAL (price 50 cents) both for $1.00 a year. The Weekly BEE JOURNAL and the Poultry Journal, both for $2.50 a year. This is a rare opportunity to get two standard papers for about the price of one.

Florida Honey.—The bee-keepers of the East Coast of Florida have published the following, which they call a "Protest":

> We, the undersigned, apiarists of New Smyrna and the Eastern Coast of Florida, realize the fact that the honey product of the Florida Coast country is on the increase yearly, and that our beautiful grades of finely-flavored mangrove and palmetto honey are classed in the markets of the North as "light and dark Southern honey," which reduces it to the level of the strained products of Georgia and other Southern States.
>
> We would, therefore, call attention to the fact, that as the publishers of the various apicultural papers and honey dealers of the North seek a portion of their patronage from our locality, we demand in return for favors shown them, that they in their market reports of honey, as published in the weekly and monthly bee-papers, quote the product of our Coast country separate, as *Florida Mangrove* and *Florida Palmetto* honey, and thereby give our product an equal chance to compete with the other well-known grades of clover, basswood and buckwheat honey. Realizing the fact that, when once known to the public under its true name and flavor, it will compare favorably with the best-known grades, and thereby create a demand for the same to our advantage as producers.
>
> We, therefore, for the above reasons, demand a recognition of our grades of honey under their respective names.

The above is signed by 28 apiarists of Florida, and we hope that the honey merchants will quote the excellent Florida honey as requested.

Bee Moths.—Many persons speak of bees being "run out" by the moths! Why not say that the weeds "run out" the corn? When a colony becomes weak (often from queenlessness), the hive will be taken possession of by moths, and then some persons run away with the idea that the bees were destroyed by the moths. In one of our exchanges we notice the following concerning the moth:

> The moth is the color of old wood, and the wings cross one another, turning up like the tail of a fowl. It may be seen lurking around hives in the evening, trying to gain admittance. Where fowls have the run of an apiary, they catch many of these moth on the wing. Combs in frames can be kept over the summer free from the depredations of the larvæ of the bee moth, if they are suspended in the light and air, and are 3 or 4 inches apart. Moths love darkness and uncleanliness, and deposit their eggs in cracks and crevices about hives, where bees cannot gain access to them. Do not permit refuse comb to lie around the apiary or bee house. I have put frames of comb containing their larvæ into a hive of Italian bees, and in half an hour could see the bees bringing them out. There is no need of any other moth trap, for they are always baited and set. A handful of Italians will defend a hive.

The Honey Markets.

The following article is copied from the *Bee-Keepers' Magazine* for August:

The flooding of the markets with California honey caused the piling up of Eastern honey, especially comb honey, to such an extent that there is not a honey merchant in the city of New York but what has some still on hand. We desire to say to producers, do not send in your honey yet, for it cannot and will not be sold at any price at all satisfactory to you. Whenever the market rallies, so that even 12 to 14 cents can be obtained for the best white clover honey, we will give due notice of the same in the *Magazine*, but it is entirely useless to quote prices which cannot be obtained. During the prevalence of the season of hot weather there is never much demand for honey.

We see by the AMERICAN BEE JOURNAL of Chicago, that the firm of McCaul & Hildreth, of this city, are quoting white clover honey in sections at 14 and 15 cents per pound. Now, with all due defference to the feelings of these gentlemen, we tell them plainly that they are doing wrong in thus misrepresenting the New York honey market. They wrong the producer by inducing him to send in his honey at a time when it is utterly impossible to realize any such prices, even if it can be sold at all. Further, those who have yet fine honey of last year's crop in the hands of merchants, and are willing to take much less than the above quotations, for they may naturally expect something is wrong, when told it cannot be sold, and this in the face and eyes of said quotations.

We are willing to allow that M. & H. gave these quotations inadvertently, with probably the motive of being ahead of other cities in prices paid for this produce, but we should remember that "patriotism," which cannot be accounted for by facts, is worse than none at all. Let us dispose, at some price, of the honey yet on hand before inviting more, lest we produce a "glut" in the market, for which there can be no excuse this year, as California will not produce enough for home consumption, and their usual foreign demand.

We consulted with the leading buyers, including Quinby and the Ward Brothers in reference to the matter of depression, and all expressed themselves in harmony with the sentiment of this article. The outlook of prices for fall and winter is good, and so we advise producers to hold their honey and then use discretion in its disposition, selling only to those who know how to handle it to advantage, viz., when sending to this city, but first and foremost is the home market. Cultivate that with energy, for there is not yet one person in ten, even in the country, who uses honey as he ought to, and that it is far superior for daily and family use to any other sweet, and especially the universally adulterated—golden drips, silver drips, and other syrups of high-sounding names.

In reference to their quotations in our "Home Market," Messrs. McCaul & Hildreth Bros. write us the following explanation:

We have, at the solicitation of publishers of numerous magazines, given quotations the year round, as we have a market for honey every day in the year (Sundays and holidays excepted), and when the author of the above asserts that there has been absolutly no demand for honey since May 1, he gives it as his opinion, without proof. There has not been a week nor a day since May 1 up to present date that we have not sold more or less honey. We sold out our white comb honey about April 1, and since that time have had to go on the market here and purchase of other dealers to supply our trade, a fact which some dealers in this city will testify to. We had a lot of 38 barrels of honey turned over to us June 12, which had lain on this market over six months, which we disposed of and sent the owner a check on June 29. Since May 1 we have had a better trade in California and Southern honey than we ever had at this season of the year. We have received a few small lots of this year's crop of comb honey, which has sold readily at our quotations, and returns have been made to shippers. We have recently received numerous letters from producers, inquiring as to the state of the honey market, prices, etc., to which we have replied in nearly every instance, that it is too early in the season to give quotations on the coming crop, and too early to commence shipping comb honey. We mention these items to prove to the author of the above article, that he has done us an injustice, and should make due reparation. We have always endeavored to hold prices up rather than to depress them, as our experience teaches us it is easier to lower prices than to raise them; while it seems to us that the above article seeks to keep them down rather than to elevate them.

McCAUL & HILDRETH BROS.
New York, July 31, 1885.

Of course we have nothing to do with the controversy between the parties, as given above, but our readers will be glad to learn anything concerning the out-look for the sale of the honey crop of the present year, and in both of the articles there are facts enough worth taking into account while making up our minds on the present prospect for the honey market.

The advise, in the former article, to "cultivate with energy" the "home markets," cannot be too highly commended—that is the key-note for success in the pursuit of bee-keeping. Thousands should eat honey regularly where now only tens do so!

In the latter article the admonition is worthy the attention of all—to abstrain from *rushing* honey to the large and central marts of trade, least it cause a "glut" and depress the figures obtainable; in fact, to do all in our power to keep the prices up to a fair and living rate, rather than to endanger their fall by unwise *rushing* large crops to market.

Honey and Beeswax Market.

Office of the AMERICAN BEE JOURNAL,
Monday, 10 a. m., Aug. 10, 1885.

The following are the latest quotations for honey and beeswax received up to this hour:

CHICAGO.

HONEY—This week has brought on the market some of the new crop, which is being held at 15c. per lb. for white comb. There is not any comb honey of the crop of 1884 worth mentioning here now. Extracted offerings are rather free; prices are unchanged—5@7c per lb.

BEESWAX—22c. for yellow.

R. A. BURNETT, 161 South Water St.

BOSTON.

HONEY.—We quote the following prices: Fancy white comb in 1-lb. sections, 16@18c.; the same in 2-lb. sections, 14@15c; fancy white California 2-lbs., 12@14c. Extracted weak, 6@8c. Sales very slow.

BEESWAX.—30 cts. per lb.

BLAKE & RIPLEY, 57 Chatham Street.

NEW YORK.

HONEY—The honey market is very quiet, and will continue so until fall trade opens up. Some old stock is on the market yet, with small shipments of new comb honey arriving. Southern extracted honey is coming in very freely. Quotations are as follows for comb honey: Fancy white in 1-lb. sections, 14@15c; fair to good in 1-lb. sections, 12@13c; fancy white in 2-lb. sections, 13@14; fair to good in 2-lb. sections, 11@12c; fancy buckwheat in 1-lb. sections, 9@10c; fancy buckwheat in 2-lb. sections, 7@8c. Extracted white clover, 6@7; buckwheat, 5@6c; Southern, per gallon, 55@65c.

BEESWAX—Prime yellow, 25@28c.

McCAUL & HILDRETH BROS., 34 Hudson St.

CINCINNATI.

HONEY—The market is quiet with fair demand for extracted, and an abundance of offerings from commission houses and producers. Prices range between 4@8c on arrival. There is but little new comb honey in the market, with an occasional demand. Prices nominal.

BEESWAX—Is in fair demand with liberal offerings, and brings 20@24c on arrival.

C. F. MUTH, Freeman & Central Ave.

SAN FRANCISCO.

HONEY—The market is quiet, there being no shipping demand and not much local trade. There are receipts of both old and new. One lot of 200 cases of old extracted arrived from San Jose. White to extra white comb, 7@9c; dark to good, 4@6c; extracted, choice to extra white, 4¾@5¼; amber colored, 4@4½.

BEESWAX—Quotable at 24@25c—wholesale.

O. B. SMITH & CO., 423 Front Street.

CLEVELAND.

HONEY—Is very dull just now during strawberry time, and although we hold at 14@15c per lb. best white 1-lb. sections, it is merely nominal, as there are no transactions. As soon as our people have satisfied their craving for acid fruits, they take very kindly to nice white honey, and we may look with confidence to a good demand in July, August and September.

BEESWAX.—Scarce at 28@30.

A. C. KENDEL, 115 Ontario Street.

KANSAS CITY.

HONEY—Trade in this article is very quiet just now. Nothing sells at this time of year except extracted honey, in bulk and small glasses and tins of honey. Some large sales of extracted this week at 5@6c for southern, and 6@7c for clover and sage. Comb honey nominal, at 12@13c for choice white 2 lb. sections, and 13@14c for 1-lb.

BEESWAX—Weak at 20@25c.

CLEMONS, CLOON & CO., cor. 4th & Walnut.

QUERIES

WITH

REPLIES by Prominent Apiarists.

Keeping Queens Outside of Hives.

Query, No. 97.—What is the best method of keeping young laying queens outside of a hive for from 5 to 10 days? Is it advisable to keep queens in this way?—W.

G. M. DOOLITTLE says: "I cannot see why we should wish to keep them thus, for of what use is a laying queen outside of a hive, except in transit from one apiary to another."

DR. C. C. MILLER answers: "Keep them in shipping-cages. I doubt the advisability."

J. E. POND, JR., replies: "I must confess I do not fully understand this question. I cannot see that it is advisable to keep queens outside of the hive. In the case of a queen-breeder who has a large supply on hand, they can be kept in cages in the hive or on top of the frames. I have kept queens for 4 or 5 weeks in this manner, but I think it an injury, as a rule, to do so."

CHAS. DADANT & SON remark: "It would be foolish to keep queens out of hives without reason, but if it has to be done, they can be very well kept with a few bees in an ordinary mailing-cage, for a week or more."

W. Z. HUTCHINSON says: "Cage them with a sufficient number of workers to keep them from being chilled—see that they have plenty of food, and keep them where ants will not get at them. It is advisable to so keep them, if there is any reason for so doing."

DR. G. L. TINKER answers: "We know of no better way to keep laying queens outside of a hive, that to place some 'Good candy' with a few bees. It is advisable to keep them thus only when it becomes necessary to remove them to make way for virgin queens."

JAMES HEDDON replies: "1. Keep them in a commodious cage, with 50 or 100 workers, in a dark place and even temperature of about 85° to 90°, Fahr., and supplied with a non-nitrogenious food (sugar syrup), applied in such a way as not to daub them. 2. It is better to keep queens caged in a queenless hive (better for the queens), and better still if they have full liberty there."

G. W. DEMAREE remarks: "The best way to keep them is to put them in a nursing-cage with a few young bees, and hang the cages in a nursing colony. I keep several nursing colonies to preserve unemployed queens, virgin queens, queen-cells, etc. My nursing colonies are made up of frames of brood, five or six in number, and are kept well-stocked with young bees. They are not permitted to have a laying queen while used as a nursing colony."

PROF. A. J. COOK replies: "This is practiced by some of our best bee-keepers, to prevent increase, and is, perhaps, the only sure way, if we are to produce comb honey. Such queens put in a nucleus above, or close beside the old hive, may be kept laying, and in 7 or 8 days, if we destroy or remove all queen-cells and return the queen, we may get bees at once into the sections and have no further swarming."

Superseding Queens.

Query, No. 98.—Is it advisable to let a queen become more than 2 years old before superseding her with a young queen?—J.

DR. C. C. MILLER replies: "Not unless she is an unusually-good queen."

PROF. A. J. COOK answers: "Yes, if she retains her fecundity. Prolificness, not age, should be the test."

W. Z. HUTCHINSON says: "Yes. I believe that, as a general thing, the bees supersede a queen when she begins to fail."

CHAS. DADANT & SON reply: "Yes, for she is very good in her third year, usually."

DR. G. L. TINKER remarks: "I believe it advisable to supersede all queens over 2 years old, except those most valued for breeding purposes; since it often happens that a 3-year-old queen fails, at a time when the work of storing surplus is interfered with."

G. M. DOOLITTLE says: "I never supersede a queen until she becomes unprolific, as many of my queens are as good as ever at 4 years old. In fact, the Italians rarely let a queen get unprolific, as they do their own superseding before she becomes so."

G. W. DEMAREE answers: "After experimenting in this direction for several years, I now decidedly prefer to leave it to the bees to decide when their queens are worn-out. As a general thing, the bees will make fewer mistakes in directing this delicate matter, than the wisest apiarist is likely to make. I have had several queens that could not have been bought at $25.00 when 3 years old, and one queen that $50.00 would not have caused her to change hands at 4 years old."

JAMES HEDDON replies: "Queens 3 and 4 years old are good to breed from, though they are not as prolific, as a rule, as are young queens. For comb honey production, we need either prolific queens, or smaller or contracted hives. It is more profitable to adjust your hive system to your average queens, than to practice superseding."

J. E. POND, JR., says: "I never supersede a nice queen, no matter how old, until she shows signs of failing powers. We want queens for the eggs they lay, and for that reason power of production, and not age, is the rule to follow. I would not keep a young queen a moment if she did not lay up to a fair average. I have a queen now 5 years old that is as prolific as ever she was, and I see no reason why her age injures her, in any degree whatever."

Are Drones Commoners?

Query, No. 99.—Will the drones reared in one colony be admitted into any other colony in the same apiary?—J. H.

G. M. DOOLITTLE replies: "Yes. At any time drones are not being killed off. After this, they are only tolerated in such colonies as have not slaughtered their drones."

DR. G. L. TINKER says: "No; not unless it is without a laying queen. Drones are not commoners, as has been taught by some, by any means."

JAMES HEDDON says: "Yes; they are free-commoners. Of course there comes a time when all drones are refused admittance to all hives, not queenless."

DR. C. C. MILLER says: "During a flow of honey, drones or workers may enter any colony, except workers that go as robbers. Probably a queenless colony would accept drones at any time."

G. W. DEMAREE replies: "Not as a general rule. I have given this matter considerable attention, and I have found, when transferring drones from one colony to another, that I must use much the same caution which I would observe when transferring worker bees from one colony to another. As with worker bees, young drones are more likely to be tolerated, and drone-larvæ will be cared for just as if reared in the hive. But old drones 'mark their location' like worker bees do, and will return home just as do the latter."

CHAS. DADANT & SON say: "Yes; in good honey weather, but not usually. Queenless colonies will accept them any time."

W. Z. HUTCHINSON replies: "During a flow of honey, I have never seen bees killing drones; hence I conclude that stray drones are not killed."

J. E. POND, JR., says: "Yes; always and invariably."

PROF. A. J. COOK answers: "That depends; sometimes they will—sometimes not. I have often found that drones caught and placed at the entrance of a strange colony, would enter unmolested. At other times they would be seized at once."

☞ All who intend to be systematic in their work in the apiary, should get a copy of the Apiary Register and commence to use it. The prices are as follows:

For 50 colonies (120 pages)............$1 00
" 100 colonies (220 pages)............ 1 25
" 200 colonies (420 pages)............ 1 50

The larger ones can be used for a few colonies, give room for an increase of numbers, and still keep the record all together in one book, and are therefore the most desirable.

CORRESPONDENCE.

Explanatory.—The figures BEFORE the names indicate the number of years that the person has kept bees. Those AFTER, show the number of colonies the writer had in the previous spring and fall, or fall and spring, as the time of the year may require.

This mark ⊙ indicates that the apiarist is located near the centre of the State named: ♁ north of the centre ; ♀ south ; ○→ east ; ←○ west; and this ♂ northeast; ⌐○ northwest; ○⌐ southeast; and ♀ southwest of the centre of the State mentioned.

For the American Bee Journal.

Thousands Wanted for Defense.

J. W. MARGRAVE.

I am surprised to see that only about 150 bee-keepers have placed themselves on record for the defense fund! Surely they will soon come to the rescue. We cannot afford to wait until each of us are attacked (for attacked we will be if this Freeborn case is decided for the plaintiff). If a respectable number of bee-keepers respond promptly and raise a fund commensurate with our numbers, we will be far less liable to be annoyed by ignorance and stupidity than we should be if this case was vigorously defended and gained, as it assuredly will be if Mr. F. can get a fair and impartial trial. Let two or three thousand bee-keepers hasten to enroll their names in this army, and let the benighted sons of ignorance be informed that we have the means and the will to defend our chosen pursuit, and they will be slow to prosecute us for keeping bees to fertilize their fruits, flowers, and clovers.

We, here in northeastern Kansas, have a very poor honey season thus far, this year. August is our principal honey month, and we hope for the best, but begin to fear another off year.

Hiawatha, ♂ Kansas, July 31, 1885.

For the American Bee Journal.

Among the Bees in Summer.

16—G. M. DOOLITTLE, (80—50).

On page 421 of the BEE JOURNAL I gave a brief description of how I managed my bees in the spring, and left the reader at a time when the hives were full of bees which we had obtained by our spring management. As soon as a colony has all the frames full of brood, spring has given place to summer, so in this article I will give a brief sketch of how I manage my bees in the summer. The first thing I do when I find a colony as above, is to put on the boxes or honey sections, or rather a part of them, for I contend that it is poor policy to give any colony (unless it is in the case of two prime swarms being hived together,) all of the surplus room on the start, as such tends to discourage them, as they do not as yet have a sufficient amount of bees to take possession of so large an amount of room. I generally give surplus room amounting to from 20 to 25 pounds at the start, and as the bees take possession of it give as much more room, and finally the full capacity of the hive (60 pounds), when the force of bees increase so as to warrant it. However, as a rule, the swarming season arrives before all the sections are put on, when no more sections are added until the old colony gets a laying queen.

Always in managing bees the apiarist should have an eye on the future as regards his honey harvest, until the harvest arrives, and when it arrives, then bend his every energy for the time which is present. For instance, my honey harvest comes from basswood, or during the last half of July, so all my operations previous to this time, must be in reference to this harvest, or all my efforts will result only in failure.

Now the time the bees swarm has a very important bearing on what I get as cash out of the apiary. If they swarm too early, they defeat my plans, and if too late it is nearly as bad. The thing is to get them all to swarm at the right time, which is brought about as nearly as it may be, by keeping back the strongest and building up the weakest. This is done by drawing bees and brood from the strong and giving to those which are weak, until all are brought to a uniform strength at the desired time for swarming. But says one, when is the proper time for increase, to which I reply about 15 to 20 days before the main honey harvest. Why? Because this gives time for the young queen in the old colony to hatch and become fertilized, and not enough time to the swarm to get so strong as to desire to swarm again.

Remember I am talking exclusively of raising comb honey, for the raising of extracted honey requires a very different mode of procedure, in my opinion, and I have extracted as high as 565 pounds from a single colony in one season. Nothing can detract more from our crop of comb honey than to have our bees get the swarming fever during the honey harvest, unless it is, the having them so weak at that time, that they are of little or no value. In the forepart of June I was accosted by a neighbor, by saying, "Have your bees swarmed yet?" No, said I, nor do I expect them to generally for the next three weeks. "Well," says he, "I guess you won't get much from them, for Mr. S. is having lots of swarms." All right, says I, I shall be glad to have Mr. S. get a good crop of honey. Well, the result is, that now, July 23, with the basswood in full bloom, Mr. S. is having lots of swarms, which he is putting back, cutting out queen-cells, etc., in the vain hope to get them to go to work, while I have only now and then a swarm with the sections on nearly every hive, being filled as if by magic.

On page 422, in closing my article on spring management, I said "the getting of bees in the right time for the honey harvest counts more toward cash and fun in the apiary than all else," which is true, and next to this is the managing of those bees, so that they will be only bent on storing honey during the honey harvest; for the lack of either gives the apiarist only small returns for his labor among the bees. After doing all in my power to get all swarms out between June 25 and July 4, I frequently get some as early as June 20, and as late as July 12 to 15. Those issuing before July 4 are hived on a new stand, and a part of the sections are put on in 2 or 3 days after hiving, while the date of swarming is put on each hive: N. S. 6 22 being put on the swarm, and Sw'd. 6-22 on the old hive, if that is the date. On the evening of the eighth day I listen a moment at the side of the old hive, and if swarming has been done "according to rule," I hear the young queen piping, when I know a queen has hatched, and an after-swarm will be the result if it is not stopped.

If no piping is heard, I do not listen again until the evening of the 13th day, for the next rule is that the colony swarmed upon an egg or small larva being placed in the queen-cell, which allows the queen to hatch from the 12th to the 16th day after swarming. If no piping is heard by the evening of the 17th day, no swarm need be expected. When it is heard, which will be in 19 cases out of 20, on the 8th day, I go early the next morning and take every frame out of the hive, shaking the bees off of each (in front) as I take them out and return them again, so I shall be sure and not miss a queen-cell, but cut all off, for we know there is a queen hatched. This is a sure plan, while I have found by experience that none of the other plans given are sure of the prevention of after-swarms. This colony is now boxed to its fully capacity, and if the queen gets to laying all right, it will have double the amount of comb honey that any swarm will. In 21 days from the time the swarm is hived, young bees will begin to hatch so as to reinforce that colony, so on the 23d to 25th day after hiving, I give the full capacity of surplus room to that also, which tends to keep them from having a desire to swarm. Well, this article is long enough, and I will stop, although I have not said one-half I desired to say.

Borodino, N. Y.

For the American Bee Journal.

Marketing Extracted Honey, etc.

J. E. POND, JR.

In considering the question of the honey market at the present time, I am inclined to the idea that the invention of the honey-extractor has been a positive injury to bee-keepers. Not that I for one instant admit that this is the fault of the extractor, for I consider it one of the greatest blessings that has been presented to us; but that many bee-keepers in their desire to produce a "big crop," have extracted too often, and too closely, the result being, that not only have the bees suffered during the winter from insufficient stores, both in quantity and quality, but that the market has been glutted with unripe honey, thus causing a distrust of this honey as an article of consumption.

I believe that this matter of offering unripe honey for sale has done more injury than all the lies that have been invented in regard to glucose, and the ingenuity of the "Yankees" exhibited in putting it into marketable shape. I presume there are as few dishonest persons among bee-keepers as can be found in any business of the same magnitude, but unfortunately there are some, and their acts have caused the whole fraternity to be looked upon with suspicion. The remedy is sure, but it will require persistent and long continued use to perform a cure. Every producer of honey must take it upon himself to offer for sale nothing but the very choicest of his production, and that, too, in the vicinity of his own home, where he is best known. By this means a reputation will become established, and when it is found that extracted honey is equally as pure, and equally as palatable as comb honey, then its sale will be found to be equally as easy and fully as profitable.

It is not over-production that has caused a glut in the market, but rather the circulation of stories detrimental to the character and quality of the goods (and in many cases I fear there is too much truth in these stories). The remedy lies with us. Let us then see to it that we apply it, and offer nothing save what is first-class in every respect.

If I understand the pollen theory it is this: Pollen is the prime cause of bee-diarrhea, and diarrhea the cause of a very large percentage of winter losses. Is this correct? In my own apiary, consisting of from 5 to 50 colonies, wintered on the summer stands, on natural stores, with no care whatever in the matter of keeping pollen out of the hives, I have never lost a colony from disease, and I have kept bees for 19 years. Were the pollen-theory correct, I should have lost many colonies; of this there can be no doubt, for it is the only logical conclusion that can be arrived at from a pollen-theory premise. I have this very season produced bee-diarrhea in a colony that had nothing whatever to feed upon but granulated sugar syrup. Of one thing I am certain: if care is taken to properly prepare bees for winter, their God-given natural stores will be found as safe as any that man can invent.

Foxboro, ○+ Mass.

For the American Bee Journal.

Wind-Breaks, Covers, etc.

C. A. HATCH.

On page 471 of the BEE JOURNAL, W. H. Stewart says that J. C. Hatch has lost all of his bees, blown over by a tornado. This is entirely wrong. I have no fault to find with Mr. S.; he is perfectly innocent in the matter, for it was so reported in our local paper at the time. It is only another instance of an over-zealous reporter's anxiety to report something sensational. I own one-half of the bees mentioned, and my brother (J. C. Hatch) does the management of them, and owns the other half; and to the best of my knowledge there was not over four hives upset by the wind, but shade boards and every scrap of covering down to the enamel cloths, were taken off from nearly every one and sent in every direction, exposing the combs to the direct mercy of the wind and rain. Serious results might have followed had not brother and father hastened to the rescue and restored the covers as good as it was possible in a drenching rain. No serious results followed either the upsetting or wetting that the bees got. So much in explanation. How much easier it is to set a falsehood going than it is to overtake it with the truth.

As to Mr. Stewart's fence break, I have no doubt it would protect the hives if it were made strong enough, but nothing short of a stone wall would stop a tornado, and other things besides wind are to be thought of, the shutting off of all circulation of air by high fences, and the reflected heat of the sun from them would make the heat unbearable in summer. Tornadoes are so infrequent that it is hardly worth while to attempt to protect against them, as what would make us at all safe against them, would make it very burdensome at other times while at work with the bees.

I use a shade board 30 inches by 24 inches, similar to Mr. Heddon's style, on my hives, and no weights, and very seldom have one misplaced. The ground occupied by my hives (about 75) slopes slightly to the north, and is some protected by shrubbery on the west, consisting of raspberry bushes, and my dwelling on the southwest. My shade-boards are made of 1-inch pine, nailed to 1½x2½ inch white elm cleats. I have some made of ⅜-inch pine, but they are too light, and need a weight. The cleats are nailed on at such a distance apart that when one rests on the hive the other just comes off at the other end. If the shade-board is put on sloping to the west, and the down cleat snug against the hive, it gives it something of a "bite" on the hive, which helps to hold it. This protects it against the direction of most of our high winds.

Itaca, ♀ Wis.

For the American Bee Journal.

The Pollen Theory.

JAMES HEDDON.

If Mr. Shuck's article, on page 470, did not call into question else besides the wintering problem (so much having already been written upon that topic), I should not reply to it.

He first says that "Mr. Heddon's experiments are the only features in this discussion that appear as facts in favor of this theory," ignoring the fact that Mr. Fradenburg, Prof. Cook, and others have given similar reports. He then says that I define nitrogen as bee-bread. I define bee-bread as replete with nitrogen. I claim that nitrogenous food, if taken, will cause a fecal accumulation. I also claim that exertion—activity—calls for and causes the bees to partake of the nitrogenous food—bee-bread. This accounts for the well-known fact that fecal accumulations form so rapidly during summer, or just after a spring flight; and the reason why the short cold snaps that come *after* our bees have been working a few days, so quickly develop diarrhetic symptoms. I hope I have now made the pollen-nitrogen matter clear.

Mr. S. would like to know where a normal condition of the bees' intestines ceases, and disease begins. I will try to inform him. Intestinal disease begins when the fecal accumulations reach beyond the point that causes the bees to desire to void such accumulations. All who are familiar with the cleansing flights of bees, will recognize the point referred to.

Mr. Shuck says that a blow to the pollen theory is found in the fact that many healthful colonies show a larger per cent. of pollen in their excreta than those suffering most severely from diarrhea. I deny this, and demand the proof before it passes in as evidence one way or the other. This strong and convenient statement must be based upon reports of supposed dry feces.

But here is the strongest argument of all, as Mr. S. says: "If I can show that large apiaries are being wintered successfully on natural stores, one year after another, and that, too, in communities where from 50 to 75 per cent. of the bees of other apiaries are lost during severe winters, I wish to ask what more is necessary? I ask him to explain what were the different causes to the different effects. Why has not he, or some one entertaining his ideas, given us some light by which we, too, could succeed? It is true that at all times just such exceptional cases of safe wintering have occurred in the midst of death and disaster. The "pollen theory" was born among just such facts; being born in the midst of such conditions, it lives and grows among them. Did Mr. S. imagine that I did not know of these facts long before I published my conceptions of the cause of our winter scourge?

He says that my position is not tenable as long as there is a single instance of successful wintering with natural stores on record. Does he know that all honey contains nitrogen? and that there is no honey that contains so *little* nitrogen that bees cannot survive upon it, and come forth alive in the spring, and succeed in building up to good colonies, which he calls "successful?" Has he ever seen a colony of bees wintered successfully in the highest sense of the term?

We are all dealing with bee-diarrhea—fecal accumulations. I kept 73 colonies in a damp, cold cellar for 151 days without the least perceptible accumulation of feces; and I feel sure that I can do it at will. I believe that it can never be done on any natural stores secreted in my honey area. This settled the question of bee-diarrhea with me. That settles the whole question of wintering bees, for we need not lose them by any other cause—casualties and experiments excepted—in this locality. What I have mentioned as true here, I believe to be true in most locations.

According to Mr. Shuck's reasoning, I can disprove all other supposed causes of winter losses, and even cold. A farmer living east of here saved his entire apiary, all exposed out-doors. A Kalamazoo bee-keeper lost none that were packed—all out-doors. Mr. Boardman, Dr. Southard and others winter bees "successfully" on honey-dew. Mr. Boomhower always succeeds, and uses no ventilators, and says: "All ventilators to bee-cellars are a damage, and amount to nothing." The same gentleman succeeds in wintering bees in damp cellars; so does Prof. Cook and many others. According to Mr. Shuck's method of reasoning, we have an effect without any cause.

Mr. Shuck deplores the amount of space in the bee-papers devoted to the wintering problem or the pollen theory, which is the choice of myself and others in our work to solve this great apicultural enigma. Bee-papers are published to give apiarists an opportunity to exchange ideas and thus foster apicultural progress, through honest controversy, giving experience, etc.; we have a right to make mistakes and report them. If our knowledge was infinite, we would be right upon all subjects, progress would be impossible, and no bee-paper would be needed. Such, however, is not the case, and every intelligent reader demands only honesty of purpose.

There is now no perceptible road around the pollen theory, except in the "dry feces" theory. Even that leaves our labors not in vain. With that, pollen is the cause of bee-diarrhea; without, it no diarrhea will develop. It only remains that it is easier and more practical to remove conditions that cause pollen consumption to destroy our bees, than to remove the pollen itself. I feel perfectly confident that I shall be able to successfully winter my bees hereafter. I am also confident that others will do likewise.

Dowagiac, ♀ Mich.

For the American Bee Journal.

Was it Pollen or Moisture?

C. W. DAYTON.

On Nov. 23, 1884, I placed in a cellar containing 550 cubic feet of space (which was built for the purpose of wintering bees), 60 colonies of bees which were suspended in mid-air, and 40 colonies in hives that were without bottom-boards, and having solid boards as covers to the brood-chambers. The colonies were tiered up 5 high, facing an isle 3½ feet wide, and the differently prepared colonies were alternated with each other as they were put in. The stores consisted of pure white-clover honey, and as much pollen as it was possible to give them and that was contained by the required number of combs.

During all the winter the mercury varied scarcely a degree from 44° at the bottom of the cellar, and 47° at the top; and with the exception of a 3½-inch pipe extending from the bottom of the cellar and joined to the chimney, all chances for ventilation were cut off.

For the first six weeks after the bees were put in, the prospects appeared to be favorable for successful wintering. On Jan. 6, 1885, I noticed, while peering in at the bottom of the hives, a slight restlessness of the colonies in the hives having tight covers.

Jan. 13 found them very uneasy, the cellar smelled strongly of bee-diarrhea, and many of the hives were soiled with excrement. An examination at this time revealed condensed moisture on the outside of the covers or on the inside of the hives in some part of the brood-chambers, the position of which moisture varied in accordance to the numerical strength of the colony. After re-piling the hives and removing the cover-boards, the moisture escaped and the bees became quiet and tightly clustered, and the diarrhetic odor entirely disappeared from the cellar. This case I believe to be an instance in which bee-diarrhea was caused through the sipping of condensed moisture by the bees, in which case, had there been no pollen in the hive, the moisture would have remained untouched as it does when the bees hang out of the hive during a shower in the summer season; and the reason for it is obvious.

Although the colonies remained very quiet, affected bees continued to go to the cellar-bottom until about Feb. 1, when the loss of bees nearly stopped, and all went smoothly until the effects of the warmer weather (which came about March 4) began the retarding the escape of moisture from the cellar. At this time I observed that the colonies which were made weak by the loss of bees, were unable to protect their combs from the increasing dampness of the cellar which gradually covered them with mold and moisture, and which, in a condensed form, extended on all sides of the clusters, and sometimes under the feet of the bees in the weaker colonies. In case of the foregoing conditions, it was not long until the bees were forced to partake of sour honey, in consequence of which 17 of the smallest colonies died between March 9 and 16. Supposing the cause of the death of these colonies, I immediately supplied the rest of the 40 colonies with good honey, and caused a draft of hot air to circulate through the cellar, which removed the moisture, and I lost no more before they were put out on April 4.

As soon as they were taken from the cellar, 12 colonies swarmed out, and alighting in one cluster, I made but 3 small colonies of them. On May 1, 11 weak and diseased colonies remained of the 40 whose hives had tight covers to the brood-chambers; and of the 60 colonies which were in the hives that had neither covers nor bottom-boards, 58 were healthy and strong, one had starved and one was queenless.

One thing of which I took particular notice was, that the diseased colonies were nearly, or entirely, destitute of brood, while the healthy colonies nearly always had brood in from one to four combs.

It should be remembered that in this experiment the preparation and condition of all the colonies was the same, except the coverings to the brood-chambers, and that the results were exactly the opposite, so much so, in fact, that my premeditations (which was to produce the disorder, give ventilation, and thereby preserve the colonies alive, though in a somewhat weakened condition, as I had done in other winters) came near being defeated. Had I been aware of the humidity of the cellar in time, I have no doubt but that my anticipations might have been fully realized.

With me, strong colonies only are able to withstand the effects of excessive moisture; but give me a warm and dry cellar, and I will successfully winter the smallest colony. To maintain a steady and even temperature in cellar-wintering, is to maintain that condition which is the most favorable for the accumulation of moisture.

Bradford, ♂ Iowa.

Read at the Maine Convention.

Bee-Culture in Maine.

F. O. ADDITION.

The following are extracts from the President's annual address:

It is not to be expected that all who are engaged in bee-keeping will make it a success, nor would I recommend for every one to keep bees. There are persons who do not seem to every get time for thought, who are ever at work digging and delving from morn till night, often doing things that it were better not to have been done, when a little time spent in careful study would have brought better results with less physical labor. We need a certain amount of labor, but we want a better understanding of our business whatever it may be.

In some States where the climate is more adapted to honey-producing than ours, and where a greater number make bee-keeping a specialty, their crop will surpass ours in quantity; but we have the satisfaction of this, that they cannot surpass ours in quality, for no better honey is produced than that which comes from the hills and valleys of our own State. Still we are far behind some of our sister States in the science of apiculture; after the rapid progress we have made for the past few years, we are still only in our infancy; comparatively few are engaged in bee-keeping, and still less understand the principles necessary for a successful prosecution of the business.

Many may say that they only keep a few bees to get what honey they want at home, and cannot afford to go to the expense of keeping them on the improved plan. Let me say to those, "what is worth doing at all is worth doing well." What would you think of a man that would say it did not make any difference how many potatoes or how much grain he got per acre, as he was only raising it for his own use? There are, doubtless, millions of blossoms that secrete honey each year that are not visited by the honey-bee. Then again, our honey season is so short, and our honey-flows at such stated periods, and each so short that there is but little danger of overstocking the shortness of our honey season, is another reason why we should understand the requirements of our bees, to have them ready when the season comes.

There are many things for us to learn before we can claim anything like perfection in bee-keeping. I do not mean by this that there are none who understand the business, for we have many such, and it is through the efforts of these that we may look for the greatest improvements, for although we have bee-papers and works on apiculture from other States, and while the general principles may be the same, we must still look to our own apiarists for methods that apply to our own particular climate.

The success of our apiarists is due as much to their persistent research as to our favorable and natural honey-flows; still our honey-resource is of great importance, and should claim a large share of our attention. Although we, in our State, do not have as long a season as some do, for a rapid flow of honey of the finest quality, we cannot be surpassed by any section of our country. With our raspberry, our clover, our linden and our goldenrod; and in our newer sections the fireweed—with all of our other honey-plants, we have an abundant flow of honey.

To be sure we have seasons when our honey crop is cut off in some sections of the State. It was so the past year, and in a great many cases bees did not gather honey enough to carry them through the winter; but sugar being fed for winter stores learns us a lesson that we may profit by. There are questions of vital importance to us as apiarists that are yet to be proven, and that are our greatest benefactors who do the most to advance the cause of apiculture. Let us see who they will be.

Dexter,⊙ Maine.

For the American Bee Journal.

Imported vs. Home-Bred Queens.

HENRY ALLEY.

A few of the many thousand bee-keepers of this country have an idea that a queen sent from another country must be superior to those reared at home. I have tested this matter pretty thoroughly during the past 20 years, and so far as my experience goes, it is far from satisfactory, as I have found that imported queens, from any source, are inferior in all respects to those reared in this country by our most careful breeders.

Why should queens of the same strain reared in Europe be any better than those reared in America? The fact is as I have stated, that they are inferior to those reared here. Why send to Europe and pay $10 for a queen, when a much better one can be had at home for about one-fourth the price? Can any one who has purchased imported queens produce any that will compare with home-bred queens? Not one person will, in my opinion, respond to these questions in the affirmative. I have queens of several races that are perfect in points of size, color and markings, and their qualities for honey-gathering and mild dispositions, cannot be excelled. All these points were brought out by careful breeding and selection.

I have a strain of the latest imported from Palestine. The queens are dark colored, the workers the same, and their dispositions anything but pleasant. We have bred one generation from them, and there is a marked improvement in size, color, and disposition. I also have several strains of Syrian bees, and there is a great difference in the markings, color and disposition of these latter strains. The queens of one strain are large and handsome, the workers resemble the Albinos, and they are fair honey-gatherers, with very mild dispositions. Those from another strain are very smart and active, the queens small and more apt to be striped—in fact, none are yellow, but the light color is almost a saffron. Any of the races in my apiary are easily handled with the bellows smoker.

Now, one word about the Carniolans: Five years ago I imported two fine queens of this race. They were large, very dark, and resembled our black bees. The worker bees, when quite young, are of a grayish color, but when a few weeks old they cannot be distinguished (in most cases except by experts) from black bees. The bees have a mild disposition, are good workers, but their great propensity to swarm will condemn them in every case; they will not suit the average American bee-keeper. If there is anything that will discourage a bee-keeper and ruin his prospects for a large crop of honey, it is "swarming." The Carniolans are the most unreasonable in this respect of any race I have. Many of those who purchase these bees are not aware of this fact, and neither do they understand that the Carniolans are not yellow bees.

Let me advise the reader (if he really wants a fine race of bees, and the best queens produced in the world), to purchase home-bred queens in every case.

Wenham,♂ Mass.

Pacific Rural Press.

Comb or Extracted Honey.

WM. MUTH-RASMUSSEN.

To the common bee-keeper the question resolves itself into whether he shall produce comb or extracted honey. If he is situated near a good city market, or has superior shipping facilities, comb honey, no doubt, pays the best. There is less labor to the bee-keeper in the production of this article, and much of the work can be done during the winter. One man can care for a far greater number of colonies run for comb honey, than where extracted honey is the object. As a rule, comb honey also finds a readier sale, in fact, as a recent writer said, "A good article of comb honey will sell itself." The drawbacks are, that comb honey requires extra careful handling, is difficult to keep in good order, and still more difficult to transport, for which reason a very high rate of freight is demanded. Neither is it as certain a crop as extracted honey. While the producer of the latter article can supply his bees with a set of empty combs, and thus, even in a season of comparative scarcity, secure every drop of honey, which the bees do not need for their own sustenance, the comb for comb honey must be a fresh production, either from the natural wax secretion of the bees, or from extra thin comb foundation manufactured for that purpose. When honey is scarce, bees will not build any comb, even when furnished with comb foundation, and the would-be producer of comb honey, therefore, finds himself minus his expected crop, while his neighbor, who works for extracted honey, may at least get something. The production of extracted honey entails more labor, requires more help with the same number of colonies, and calls for greater expense in the way of cans, labels, apparatus, etc. Extracted honey does not sell as readily as comb honey, is not as highly esteemed, brings a far lower price, and the price is often further depressed by the objection to its tendency to granulate, although this objection will probably wear away, as consumers become more familiar with the principles of this property and learn that granulation is the best test of the purity of extracted honey.

Honey which has been extracted when fully ripened by the bees, and it should never be extracted earlier (several writers to the contrary, notwithstanding),and hermetically sealed in suitable packages, will keep indefinitely, and requires no further care, except to keep the packages outwardly clean. With ordinary care it can be transported any distance; in the candied state it will bear even the roughest kind of handling; and the freight charges should not be more than for syrup or molasses. With a good supply of extra combs for the supers, the bee-keeper can often secure two or three times as much extracted honey as he would of comb honey. Extracting has a tendency to reduce swarming, and he who works for extracted honey, and already has as many colonies as he desires or can care for, will find this a decided relief.

Independence,⊶ Calif,

For the American Bee Journal.

My Wintering Experiments.

WM. MORSE.

On Oct. 15, I packed in chaff, on the summer stands, 27 colonies of bees. Unpacked them the middle of April and cleaned their hives. Two colonies were queenless. The others were in good condition with from 2 to 4 frames of brood, and plenty of stores. I sold 6 colonies. The rest all swarmed once, June 11 to 27th. I put the queenless colonies with the others. I also put back all after-swarms. I have now from them 38 good, strong colonies and 10 three-frame nuclei.

On Nov. 5, I put 25 colonies of bees in the cellar. They were confined 141 days. April 2, I put them on summer stands. One colony was dead and 2 were queenless. The rest had 2 or 3 frames partly filled with brood, and showed signs of disease. They dwindled about one-third in a month; and on May 4, 4 more were queenless.

Thirteen of them swarmed once, June 23 to July 9. I have now from them 31 colonies. July 15, I cut the queen-cells from the 5 colonies that had not swarmed.

This experiment shows more favorable results from wintering, packed on summer stands.

Rockford,~o Ills., July 25, 1885.

* * *

Plowman.

Marketing Honey—A Caution.

C. H. DIBBERN.

In most localities August is rather a quiet one for the bees. The first or white honey harvest is past, and if for any reason the bee-keeper has failed to secure a fair crop, the opportunity has now past. The season was so late and cold that it has been very difficult to get the bees in the best condition to gather the honey when it came. Only strong colonies will store any surplus honey, and to get these at the right time has been the important problem to solve. Swarming commenced late, and only strong colonies with us have swarmed at all. In the amount of honey produced the case is much the same; only strong colonies have produced any surplus. The crop, from present indications, will be a very moderate one. In the first place, only about one-fourth of the bees all over the Northern States survived the winter and early spring. The most colonies were so weak that the honey flow was well advanced before the bees could store it rapidly, and the prospect now is that the flow is nearly ended. Reports from California are very gloomy, and the prospect there is that there will be little or none to ship. In looking the country over and considing the great loss in wintering, and the peculiar season, I do not think that much more than one-half the amount of honey will be produced that there was last year, when only a poor crop was gathered.

Now, what about the honey market? If you have been fortunate enough to secure a fair crop, do not be in a hurry to sell it at the nearest store for a small price. There is an increasing demand for the nicest honey, and such will bring a fair price if properly marketed. The worst trouble is with those that have but little to sell, and will bring it to town as soon as taken off, and sell for whatever is offered. These lots are usually in poor shape, and do not greatly affect honey in nice packages. Occasionally a very nice lot will be brought to town and sold for a song. That usually spoils the market for the season, and the larger bee-keeper finds it necessary to ship his honey to some distant market. While everything is so cheap we cannot expect to get a high price for our honey, but in view of the limited amount secured, we ought to insist on a fair price.

The bees still require some attention this month. Keep watch of colonies that have swarmed. If after 16 days after swarming they are found gathering idly about the entrance while others are working, look them over and see that they have a laying queen. If no queen is present, one should be given; if none is at hand, a frame with a queen-cell; if that cannot be found, then a comb with brood and eggs should be given. All colonies should still be kept strong. There is yet a prospect for a good crop of fall honey, and we must have our bees in good condition if we hope to secure it. This fall honey is yellow, or dark, and will not bring as good a price as the white. In some sections this late crop is abundant, and is a great help to the bees, as it causes them to rear brood late, which are the bees to winter over. Keep a sharp look to your honey, and if any signs of the moth, give it more sulphur. If you still have empty comb, it had better be melted into wax if any signs of the moth appear; if not, store such in a cool, dry cellar, and hang them an inch apart. If not closely watched, the moths will surely destroy them.

Milan,~o Ills.

* * *

For the American Bee Journal.

Direct Introduction of Queens.

ABEL GRESH, (23—51).

In answer to S. Simmins article on this subject, on page 472 of the BEE JOURNAL for 1885, I would say that I am fully convinced that the method there described is not a safe one, and I doubt if I could succeed with it in a single instance, unless it might happen under peculiar circumstances. After giving my experience on page 521 for 1884, I found I was too confident of my success, even after the heroic treatment I gave the bees to compel them to accept a queen; I found, when looking her up, that she had been roughly handled, as she had one of her limbs totally disabled, and I superseded her at the close of the season. Again, this season, I had a queen fail in the midst of the swarming season, and I found the colony in such a condition as to be wholly unable to remedy the failure by rearing a young queen to supersede the old one.

I waited until I had a laying queen in a 3-frame nucleus, then hoped to be able to introduce her direct by transferring the three frames in a body, and exchanging others of the hive with a colony that had recently swarmed, to reform my nucleus, and so mix the bees as to take the "fight" out of them. I carried out the programme by removing the old queen, carried my nucleus, in its hive, to the stand, and carried the hive for mixing with to the same place. I first removed three combs, setting them outside, set in the comb containing the queen, and placed the other two from the nucleus, one on each side, and then alternated the balance of the combs with combs and brood from the second hive, then closed it, and alternated the balance of the combs in the second hive and the nucleus, and set each on its proper stand.

I then opened the hive in which I had placed the queen, to see if she was molested, and found she had traveled to one of the old combs, originally belonging to the hive, where the old bees attacked her, and began to ball her. I rescued her, and after caging 12 hours, she was accepted. I have never lost a queen by introducing on Frank Benton's method, though I had to re-cage one five times, but as a rule 24 hours caging is sufficient; and I need no quicker method, especially since it is such a safe one.

I have no doubt Mr. Simmins succeeds in the manner he describes; and where it succeeds, the practice is desirable. But as for myself, I judge that many conditions must change before I can hope to succeed by it. In this connection it will pay any one to turn to page 453 of the BEE JOURNAL for 1884, and read "What do we Know," by G. M. Doolittle, which treats of a point similar to the one under consideration here. It will be found that his success is not always assured when working on plans different from the old stand-by ways. An old hand is not likely to suffer much in trying such experiments, but to a beginner who, perhaps, is risking the only queen he has on hand, and she may be quite valuable, I would say, "don't do it."

Weedville, δ Pa.

* * *

Spirit of the Farm.

My Experience in Hiving Swarms.

ARNOLD DELFFS.

Though the swarming season is mainly over, and the very few swarms that may still be expected hardly ever amount to much, unless assisted by brood, empty combs, comb foundation, or (night) feeding, I, nevertheless, deem it of importance to make a few remarks on that subject; the more so, as under circumstances—exceptional, it is true—hiving may be a very dangerous undertaking.

Most people know that bees, when filled with honey, are disinclined to sting; also, that they, ere starting, fill themselves with that substance, carrying enough to last them about three or four days. They also go "fattened up," so to say, for comb building, having prepared themselves beforehand by rest and liberal feeding. But all armies have their stragglers. A few bees almost invariably fail to provide themselves with rations; these are exceedingly ill-natured, and almost sure to sting; besides, the most peaceful bee will sting when becoming entangled in your hair or beard. Ordinarily speaking, incredible liberties may be taken with a swarm of bees; but, as I shall proceed to show, it is at times unsafe to put too much confidence in an "untested" swarm—*i. e.*, one you have not tested as to their tempers.

About two weeks ago one of my neighbors, whilst plowing one mile from here, came to inform me that a remarkably strong swarm was hanging about 16 feet above the ground, on a small ash tree, which could be ascended by means of a cedar close by. The evening was hot, and both of us, having been hard at work, perspired freely. As most persons know, there has been barely any surplus honey this season, but I was so much used to good-natured swarms, that I failed to take my bee-hat with me. A rope to let down the limb, also a hand-saw and pruning-shears were taken, however. We soon arrived at the spot. The first thing I did was to saw down a small walnut tree and make a very strong fork. I next ascended the cedar (slow and disagreeable work); after cutting a free passage for the loaded limb, I told my partner to prop one end with the fork. Then I took the rope, let it slide along a branch above the one I intended taking off, and carefully began sawing. I was stung several times while doing so, and might and ought to have taken the hint; but still I proceeded, being deceived by mistaking the offending parties to be a squad of improvident stragglers. I even now fairly shudder, thinking of what a remarkably narrow escape I had; and under hardly any circumstances would I incur such danger again.

The man holding the fork became restless, for, though there had been no serious jars, the bees directed their attention to him, too, treating him liberally to stings. But, fortunately for me, he stood to his post; had he let loose my life would probably have been the forfeit. Very slowly and carefully the limb was lowered; as soon as it fairly touched the ground my assistant took to his heels. I descended as quickly as I could; ere reaching *terra firma* a large number of bees assailed me, but running through some bushes, I was safe. After some minutes I approached the limb, but, if any thing, the bees were fiercer than before, and remained so till sundown.

We then carried the limb home. A Langstroth hive filled with clean, empty combs had been prepared for their reception, during my absence. All attempts to coax them into their future home were unavailing that night. Next morning I took from a strong colony two frames with unsealed brood and replaced them with empty combs; the brood was then inserted into the hive. The brood I gave had a pacifying influence, for the bees went in, and have done well ever since.

The question arises, what caused the bees to act so fiercely? My theory then was, and to a certain extent still is, that our perspiring had something to do with it; also that perhaps the bees had left their previous habitation long enough to have consumed the rations they loaded themselves with. But a few days afterward I saw that these conclusions were mainly, perhaps entirely, wrong after all.

About one week ago, shortly after a rain, a colony that never had given me a drop of honey this year (I had examined it but a few days before), cast a swarm. They fortunately settled rather low; at any rate, at a far more convenient place than the one first spoken of. But, though I had not worked any that day, owing to the rain, and had on a fresh shirt, they were just about as ill-tempered as their colleagues. Of course they had not consumed their honey, having barely started. This made it reasonable that there was not a sufficiency of honey in the hive to go all around, consequently a great many were mad and showed their disposition whenever and wherever a chance offered. But clean, empty combs, also two sheets of unsealed brood, exerted a beneficial effect. They are well at work now, and though late, owing to the moist atmosphere prevailing, the white clover lasting longer than usual, the assistance derived from the brood, and last, but not least, that of the other combs, I think will do well, and, in case of an ordinarily-favorable fall, give me a fair surplus of extracted honey.

Shelbyville,⊙ Tenn.

SELECTIONS FROM OUR LETTER BOX

Good Crop of Basswood Honey.—Frank McNay, Mauston,⊙ Wis., on Aug. 3, 1885, writes:

Basswood has yielded a good crop of honey in this locality, but on account of the hard winter and spring, there are but few bees to gather it. I have run two of my apiaries for comb honey, and have about 6,000 sections nearly filled. I also run one apiary for extracted honey; they have averaged 100 pounds per colony, and I will have to extract once more from basswood.

Speak a Word.—18—S. McLees, May, +o Mich., on Aug. 6, 1885, writes:

My bees wintered well; they were put into the cellar on Nov. 15, and I placed them on the summer stands again on April 16, which was ten days too early (they were in the cellar nearly 153 days). The brood became chilled, so I have to make the above figures. I have at the present 35 fair colonies, and intend to increase them to 40; I am working them for increase. I have extracted nearly 200 pounds of honey. The season, so far, has been the best for many years for honey, and yet has the appearance of continuing.

Speak a word, now, for the workers,
  While building their snowy-white combs;
To hold all the golden nectar,
  For "stores" in their marvelous homes.

Speak a word, too, for the mother,
  Who gently the eggs deposit;
Without her there soon would be none
  To fill up the honey closet.

Without me no home is complete,
  Declares the loud "hum" of the male;
Defenseless, despised, rejected,
  And harmless—no need of a veil.

Now speak a word, too, for their rights,
  Which cheerfully, all should defend;
While bee-keepers toss in their "mites,"
  And a bluff to the "sheep" man send.

Behold! "in union there is strength,"
  Shown by mother, worker, and male:
So, freely, now toss in your mites,
  That justice and right may prevail."

Yet Hoping.—P. P. Nelson, Manteno,♂ Ills., on Aug. 1, 1885, writes:

I am yet in the bee-business; but they went back to 12 colonies, last winter. I have now 30, and several hundred pounds of nice honey; the "survival of the fittest." Most of the bees in these parts died last winter.

Feeding Bees and Honey Crop.—J. H. Andre, Lockwood,♀ N. Y., on Aug. 3, 1885, writes:

July was a poor month for honey. I secured 100 pounds of surplus in June, from 5 colonies (mostly from 2 colonies). I had 13 swarms; doubled some; I have 13 good ones in all now. Mine is the only honey in market yet, for miles around; 40 pounds of syrup fed early in the spring, tells its own story. In regard to hives being upset by the wind, I have had empty box-hives here stand through the worst wind we have ever had, without upsetting. I believe a frame hive, set low down, will stand against a wind, when it is full of honey (and it usually is full at such a time), that would blow down a brick building.

Swarming and Robbing.—J. F. McMillan, Healy,♂ Ills., on July 30, 1885, writes:

I have 35 colonies of bees. They have commenced swarming again. I extracted the honey on June 17, as the queens had no room to lay. I have two-story hives with two-pound sections on, and when I open a hive to take off any honey that is finished, or cut out the queen-cells, the bees from the other hives rob as though they were starved. (Bees work but an hour or two in the day, and cluster on the outside of the hive). I want to know how to prevent swarming and robbing.

[I think you would have done much to prevent this re-swarming if you had kept on emptying the combs of honey. It is likely that they needed emptying every few days, until the queen got full possession of them. Now you must either clip the queen-cells or give plenty of room and shade, and trust to a natural turn of affairs to check swarming. To prevent robbing, do not let your bees get a taste of ill-gotten sweets. Do not open the hives when and where robbers are flying. When you must open them, let it be during that hour or two when the bees are at work, or carry the hives into some protected place. —JAMES HEDDON.]

Working on Red Clover.—B. J. Miller & Co., Nappanee,♂ Ind., on July 30, 1885, write:

We have had a splendid season for bees to increase, and for a large yield of honey. We had an abundance of white clover and basswood. Bees are doing well now on red clover.

Wonderful Honey-Yield and Increase.—Smith & Smith, Kenton,+o O., on July 28, 1885, write:

Although the past winter was a very hard one on bees, and the loss in this part of Ohio was about 90 per cent., still we have again quite a number of colonies in fine condition in this (Hardin) and adjoining counties. The season since May 10 has been the best that we have had for a long time. Both the clover and the basswood bloomed bountifully, the weather was just right, and the bees put in full time. It is wonderful how they rolled in the honey. Although colonies were weak on May 1, swarming began very early, and has been kept up all through the season. The increase also has been wonderful. Mr. H. Hastings started in May with 2 colonies, and he now has 24 from them. Mr. Martin started with 17 colonies, and he now has 51 in good condition, and 1,000 pounds of comb honey. Who, in Ohio, can beat this?

Good Season.—B. D. Scott, Ovid Centre,⊙ N. Y., on July 30, 1885, says:

I put into the cellar 43 colonies of bees last fall, and I lost 16. I commenced the season with 27 colonies, and increased them to 70, and have extracted 4,600 lbs. of honey from clover and basswood. The season has been good, but not as good as that of 1883.

Fifty Pounds per Colony.—J. G. Norton, (33—83), Macomb,+o Ills., on Aug. 3, 1885, writes:

The honey-flow in this section has again come to a close, and although as in many seasons the prospects for a big crop were flattering, the results are far from being so. The white clover bloomed full, but rain and cold weather up to June 25, destroyed the flow of honey. Bees swarmed profusely (when there were any to swarm), but the reports all around here seem to be, plenty of swarms but no surplus. The weather is very dry here now, and every flower is dried up, so that our fall flow is only guess work. My bees have enough now to winter on, if they do not eat it before winter comes. I received 51 swarms from 33 colonies, and have taken 50 pounds of surplus honey per colony, spring count.

Large Wasps.—In answer to an inquiry, Prof. A. J. Cook, Agricultural College, Mich., on Aug. 8, 1885, replies as follows:

The insects sent by Mr. A. T. Kelly, Franklin, Ind., are two of our largest, finest wasps. One is Stizus Speciasus Dru; the other is Stizus Grandis Say. As Mr. K. says, they are powerful stingers. They sting insects as large as the cicada, falsely called seventeen-year locust, and bury them in holes which they dig in the earth. It is said they do not always kill such insects, but only paralyze them, so that they may remain fresh, and so prove toothsome food for the young of the wasps. When the wasps catch insects, they lay eggs on them, and bury their victims with the eggs attached. Thus when the eggs hatch the young wasps have plenty of tender steak at hand. I have never received these wasps before from so far North. I have received them from Kentucky and other more southern States, and have heard that they sometimes attack and kill bees. Were it not for this habit, they would be counted as friends; in that they destroy many noxious insects.

Robber Bees, etc.—J. W. Sanders, Le Grand,⊙ Iowa, on July 30, 1885, says:

We are having very hot weather—100° to-day in the shade. It has been hot for several days. I had a general war with one very strong colony on July 28, caused by a breaking loose of some comb, which set the honey to running. I gave them a good sprinkling with a rubber hose, and covered the hive, it being about 5 p. m. I uncovered it after dark, but before 6 o'clock the next morning there was a general raid on the colony. I had tipped the the hive to the back and closed the entrance the previous evening, but it seemed to make but little difference. The broken honey was all taken up, but rob they would; so I then gave them a good smoking and drenching with flour when I soon cleared the hive of part of the robber bees. I then made a change of hives—robbers for the robbed—and in a short time all was again quiet. I have near my apiary some water works used for hot-bed work, with a 40-foot rubber hose, and this I turned so as to work in my apiary. It is arranged so as to throw a fine spray if desired. I find on these hot days that the bees seem to enjoy a little sprinkle and a general wetting of the grounds and hives. Is it not a good plan? Our first honey-season for surplus closed several days ago. The bees were busy when it was not too hot, and they are in pretty good condition for the late harvest, if we have one. I have just obtained a large-size Excelsior wax-extractor, and I find it a grand success. It is a sight to behold the amount of filth there is in old combs. I do not find any difficulty about the black water spoken of by one correspondent. I keep water in the pan the wax drips into, wash this black water all out, and put more water in the pan with the wax, and melt again, which makes it nice. I shall use no more old black combs after this.

Good Fall Crop Expected.—7—Henry Cripe, (18), N. Manchester,♂ Ind., on July 30, 1885, says:

We have had the best season, so far, that we have had since I have kept bees. I am looking for a good fall crop. Mr. G. M. Doolittle hits the nail squarely on the head in the last few lines of his article on page 453, as well as in all of his other articles.

Bee-Keepers' Union.—W. C. Nutt, Newton,⊙ Iowa, on Aug. 1, 1885, writes:

The Union, I think, is what bee-keepers want every where. There is so much ignorance and superstition among people, in regard to bees, that something similar, if not "a sheep and bees lawsuit," is likely to spring up almost any time.

> In union there is strength,
> In union's chain,
> Beneath its spell,
> Freedom, peace and safety dwell.

I am well pleased with the Constitution and the officers elected. I have changed my address from Otley to Newton, Jasper county, Iowa. I think I have located in a neighborhood where my rights will be respected. But I am ready to help in what I deem right. I think all bee-men should be enrolled as members of the Union at once.

Bees Lying Out.—C. H. Dibbern, Milan,~o Ills., on July 29, 1885, says:

We are having very hot weather here now, and plenty of room and all the ventilation I can think of will not keep the bees in their hives. I have now about 100 bushels of bees lying out on the shady sides of the hives enjoying the cool breezes. My apiary is well shaded by trees, and if there is any way to keep bees at work inside their hives when the mercury gets up to 90° and above, I would like to know it.

Best Season for 10 Years.—L. Reed, Orono,⊙ Mich., on July 27, 1885, writes:

We are having the best season for honey that we have had in 10 years. Bees were 3 weeks later in swarming this season, but we have had a large yield from red raspberry and white clover. Basswood has been in bloom for 5 days, and every tree that is 10 feet high and upwards, is full. Bees have gained from 5 to 8 pounds per day since it has been in bloom, and it will last 3 or 4 days longer. Prospects are good for a full crop, as we have had just rain enough. I extracted 50 pounds from one colony to-day, that had been extracted from 2 weeks ago, and I left 5 frames untouched. I will get about 75 pounds of surplus per colony, being mostly comb honey in one-pound sections. I have 45 colonies, and I let them swarm just once. My first swarm issued on June 23, and the last one on July 14. The following is my way of managing after-swarms: I mark on the hive of every colony the day and date when it swarmed, then I know when to look for a second swarm. When I hear the queens piping, I go through the colony and cut out all the queen-cells (there is always one queen out), and I drop the cells into a glass can with a loose top; if I want to save a good one, I take a card of brood and bees, put them in a 3-frame nucleus, place them in the cellar for 24 hours after giving them the queen, and then they are all right. I rear all my queens for my own use in that way, and I have several nice queens that are laying now, that I have reared this season. I am glad to see the bee-keepers organizing for the purpose of defense. I will send in my $1.25 as soon as possible.

Short Crop.—C. A. Hatch, Ithaca,♀ Wis., on Aug. 2, 1885, writes as follows:

The white honey harvest has ended with us, and we have to report a short one, as there was only two whole days during basswood bloom that bees could fly. We had rain all the time; clover gave a good crop, but bees had too much building up to do, to get the most out of it.

Bees are Timid when away from their Hives.—F. A. Suell, Milledgeville,~o Ills., writes thus:

The formation of the National Bee-Keeepers' Union is a move in the right direction, and I hope bee-keepers will all join in the work. There is great ignorance and prejudice in regard to bees, and if it is not the duty of all intelligent bee-keepers to work to enlighten the ignorant, I am at a loss to know what our duty is. I stand ready to pay more if needed. Bees are very timid when away from their hives, and fly upon the approach of any object, while gathering in the fields.

Profuse Honey Yield.—Prof. A. J. Cook, Agricultural College,⊙ Mich., says:

I never saw such a yield of basswood honey as we have just had.

Convention Notices.

☞ The Linwood Bee-Keepers' Association will be held at Rock Elm Centre, Wis., on Tuesday, Sept. 1st, at 1 o'clock p. m., in Condit's Hall. All interested are cordially invited to attend, and make the meeting a profitable one. B. J. THOMPSON, *Sec.*

☞ The Western N. Y. and Northern Pa. Bee-Keepers' Association will meet at Salamanca, N. Y., in Odd Fellows' Hall, on Sept. 1 and 2, 1885. A. D. JACOBS, *Sec.*

☞ The Cortland Union Bee-Keepers' Association will hold a basket picnic at the apiary of Mr. Miles Morton, at Groton, N. Y., on Tuesday, Aug. 18, 1885. All bee-keepers, with their families, are cordially invited to be present. W. H. BEACH, *Sec.*

☞ The next meeting of the Northwestern Illinois and Southwestern Wisconsin Bee-Keepers' Association will be held at Rock City, Ills., on Aug. 25, 1885.

J. STEWART, *Sec.*

☞ Owing to a very heavy rain-storm during the forenoon of July 18, the meeting of the Marshall County Bee-Keepers' Association was deferred until Saturday, Aug. 29, 1885, at 10.30 a. m., in the Court House at Marshalltown, Iowa. Subjects: "Fall Management of Bees" and "Care and Sale of Honey." All bee-keepers are invited. It will be a time of rest from other labor, and we hope to have a good meeting.

J. W. SANDERS, *Sec.*

WEEKLY EDITION
OF THE
AMERICAN
ESTABLISHED IN 1861
OLDEST BEE PAPER IN AMERICA
BEE JOURNAL
PUBLISHED BY
THOMAS G. NEWMAN & SON,
PROPRIETORS,
923 & 925 WEST MADISON ST., CHICAGO, ILL.
Weekly, $2 a year; Monthly, 50 cents.

ALFRED H. NEWMAN,
BUSINESS MANAGER.

Special Notices.

Make all Money Orders and Postal Notes payable at Chicago, Ills.—Some country postmasters insist on making such payable at some sub-station of Chicago, but we want them drawn on the *main office.*

◆

☞ If your wrapper-label reads Aug. 85, please remember that your subscription runs out with this month. Renew at once, so as not to lose any numbers.

◆

To Correspondents.—It would save us much trouble, if all would be particular to give their P. O. address and name, when writing to this office. We have several letters (some inclosing money) that have no name; many others having no Post-Office, County or State. Also, if you live near one post-office and get your mail at another, be sure to give the address we have on our list.

◆

☞ For two subscribers for the Weekly BEE JOURNAL (or 8 for the Monthly) for one year, we will present a Pocket Dictionary, and send it by mail, postpaid.

◆

☞ **Sample Copies** of the BEE JOURNAL will be sent FREE upon application. Any one intending to get up a club can have sample copies sent to the persons they desire to interview by sending the names to this office, or we will send them all to the agent.

◆

☞ We want one number each of the BEE JOURNAL of August, 1866—February, 1867. Any one having them to spare will please send a Postal Card. We will pay 50 cents for one copy of each of the two numbers.

◆

☞ **Preserve your papers** for reference If you have not got a Binder we will mail you one for 75 cents, or you can have one FREE if you will send us 3 new yearly subscriptions for the BEE JOURNAL.

◆

☞ Our rates for two or more copies of the book, "Bees and Honey," may be found on the Book List on the second page of this paper. Also wholesale rates on all books where they are purchased "to sell again."

Local Convention Directory.

1885. *Time and place of Meeting.*

Aug. 12-14.—Cedar Valley, at Waterloo, Iowa.
A. D. Bennett, Sec.

Aug. 25.—Southern Wisconsin, at Janesville, Wis.
John C. Lynch, Sec.

Aug. 25.—Des Moines Co. Iowa, at Burlington, Ioa.
John Nau, Sec.

Aug. 25.—N. W. Ill. and S. W. Wis. at Rock City, Ill.
J. Stewart, Sec., Rock City, Ills.

Sept. 1.—Linwood, at Rock Elm Centre, Wis.
B. J. Thompson, Sec., Waverly, Wis.

Sept. 1, 2—W. N. Y. and N. Pa., at Salamanca, N.Y.
A. D. Jacobs, Sec., Jamestown, N. Y.

Dec. 8—10.—Michigan State, at Detroit, Mich.
H. D. Cutting, Sec., Clinton, Mich.

☞ In order to have this table complete, Secretaries are requested to forward full particulars of time and place of future meetings.—ED.

◆

Convention Notices.

☞ The Southern Wisconsin Bee-Keepers' Association will meet at the Court House in Janesville, Tuesday, Aug. 25, 1885, at 10 a. m.
JOHN C. LYNCH, *Sec.*

☞ The Des Moines County, Iowa, Bee-Keepers' Association, will hold its fall meeting at the Court House in Burlington, on Aug. 25, 1885, at 10 a. m. All persons interested in bee-culture are invited to attend.
JOHN NAU, *Sec.*

☞ The third Annual Picnic of the Eastern Iowa and Western Illinois Bee-Keepers' Association, will be held at Black Hawk's Watch Tower, 4 miles south of Rock Island, on Thursday, Aug. 13, 1885. Cars leave Terry Landing, in Rock Island, for the grounds every half hour. A pleasant time is anticipated. Bee-keepers and their friends are cordially invited to attend. We are glad to announce that Mr. I. V. McCagg, President and founder of the Association, is improving, and will shortly again be able to be with us, after an illness of some 60 days, the greater part of the time being confined to his bed with intense suffering from inflammatory rheumatism. He expects to be so much improved as to be able to attend the picnic.
WM. GOOS, *Sec.*

The National Bee-Keepers' Union.

CONSTITUTION.

ARTICLE I.—This organization shall be known as the "National Bee-Keepers' Union," and shall meet annually, or as often as necessity may require.

ARTICLE II.—Its object shall be to protect the interests of bee-keepers, and to defend their rights.

ARTICLE III.—The officers of this Union shall consist of a President, five Vice-Presidents, and a General Manager (who shall also be the Secretary and Treasurer), whose duties shall be those usually performed by such officers. They shall be elected by ballot, and hold their several offices for one year or until their successors are elected and installed; blank ballots for this purpose to be mailed to every member by the General Manager.

ARTICLE IV.—The officers shall constitute an Advisory Board, which shall determine what action shall be taken by this Union, upon the application of any bee-keepers for defense, and cause such extra assessments to be made upon all the members as may become necessary for their defense.

ARTICLE V.—Any person may become a member by paying to the General Manager an Entrance Fee of ONE DOLLAR to the Defense Fund, and an annual fee of 25 cents, for which he shall receive a printed receipt making him a member of this Union, entitled to all its rights and benefits. The annual fee shall be due on the first day of July in each year, and MUST be paid within 30 days in order to retain membership in this Union.

ARTICLE VI.—Donations of any amount may be made at any time to the Defense Fund, in addition to the entrance and membership fees and the regular assessments made upon the members by the Advisory Board.

ARTICLE VII.—The Defense Fund shall be used for no other purpose than to defend and protect bee-keepers in their rights, after such cases are approved by the Advisory Board, and shall only be subjected to Drafts regularly made in writing by the Advisory Board.

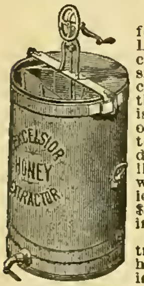
ARTICLE VIII.—The annual fees paid by the members shall become a general fund, from which shall be paid the legitimate expenses of this Union, such as printing, postage, clerk-hire, etc.

ARTICLE IX.—Meetings of this Union shall be held at such times and places as shall be designated by the Advisory Board, or upon the written requisition of ten members.

ARTICLE X.—This constitution may be amended by a majority vote of all the members at any time.

LIST OF MEMBERS AT THIS DATE:

Addenbrooke, W.,
Allen, Ransom,
Anderson, J. Lee,
Anderson, Wm.,
Angell, C. S.,
Baldwin, B. T.,
Barnes, Wm. M.,
Baxter, E. J.,
Bernschein, Ernst,
Besse, H., M. D.,
Bitzer, Wm.,
Bohn, Gustav,
Bray, Moses,
Brickey, Peter,
Buchanan, J. W. & Bro,
Burrell, H. D.,
Burton, L.,
Carder, A.,
Chapman, J.,
Cheney, H. H.,
Clarke, Rev. W. F.,
Coonley, John T.,
Cook, Prof. A. J.,
Cripe, Henry,
Dadant, Chas.,
Dadant, C. P.,
Darby, M. E.,
Dayton, C. W.,
Decker, A. A.,
Demaree, G. W.,
Dibbern, C. H. & Son,
Dickason, T. B.,
Dittmer, Gus,
Dodge, U. E.,
Doolittle, G. M.,
Downs, Robert,
Drane, E.,
Dunham, P.,
Dunn, John,
Eaglesfield, E. C.,
Eastwood, L.,
Elwood, Sr., W. R.,
Feathers, Harvey,
Flanagan, E. T.,
England, P. J.,
Follett, Charles,
Forbes, W. E.,
France, E. & Son,
Freeborn, S. I.,
Fulton, W. K.,
Funk, H. W.,
Furness, Dwight,
Gander, A. M.,
Green, Charles H.,
Greening, C. F.,
Gresh, Abel,
Grimm, Christopher,
Harlens, J. G.,
Haskin, A. S., M. D.,
Hatch, C. A.,
Havens, Reuben,
Hayhurst, E. M.,
Heaton, J. N.,
Heddon, James,
Hensley, J. P.,
Hettel, M.,
Hill, A. G.,
Hills, Mrs. H.,
Hilton, George E.,
Hoke, Abe,
Hollingsworth, C. M.,
Howard, J. B.,
Hoyle, George H.,
Huse, Wm. H.,
Hutchinson, W. Z.,
Hyne, James M.,
Jones, George W.,
King, D. N.,
King, T. Frank,
Langstroth, Rev. L. L.,
Lanning, John,
Le Roy, J. W.,
Ludkey, Charles,
Ludloff, K.,
Maddox, W. T.,
Mallory, S. H.,
Marden, Henry,
Margrave, J. W.,
Mason, Jas. B.,
Mattoon, Jas.,
McConnell, James,
McCormick, Emery,
McLees, S.,
McNay, Frank,
McNeill, James,
Millard, D.,
Miller, B. J. & Co.,
Miller, Dr. C. C.,
Miller, Henry,
Mills, L. D.,
Minnich, F.,
Minor, N. L.,
Morse, William,
Muth-Rasmussen, Wm.,
Nelson, James A.,
Newman, Alfred H.,
Newman, S. M.,
Newman, Thomas G.
Nipe, James,
Nutt, W. C.,
Pennoyer, L. A.,
Peters, Geo. B.,
Phelps, N. T.,
Pond, Jr., J. E.,
Powell, E. W.,
Pray, G. L.,
Rainey, Jarvis,
Reed, L.,
Rey, John,
Reynolds, M. G.,
Roberts, Jesse H.,
Root, A. I.,
Rowe, David,
Roye, Burr,
Schaper, E. F.,
Scheuring, Paul,
Secor, Eugene,
Shapley, D. L.,
Shearman, J. O.,
Shirley, W. H.,
Smith, George,
Snell, F. A.,
Spady, Jno.,
Spencer, M. L.,
Stearns, J. R.,
Stephenson, H. W.,
Stephens, W. B.,
Stewart, W. H.,
Stolley, Wm.,
Storer, E. M.,
Talbert, M.,
Taylor, George,
Thatcher, Will.,
Theilmann, C.,
Thompson, Geo. M.,
Tinker, Dr. G. L.,
Tongue, L. N.,
Travis, F. W.,
Travis, I. A.,
Trimberger, John,
Turner, T. E.,
Tyner, Alonzo,
Vanhouten, C. W.,
Viallon, P. L.,
Walton, Col. R.,
Webster, H. S.,
Weeks, C.,
Wendt, Henry,
Whitney, W. V.,
Wicherts, A.,
Wilkins, Miss Lucy A.,
Wolcott, Wm. C.,
Wright, W. D.,
Zwiener, H. L.



EXCELSIOR
HONEY EXTRACTORS

In answer to frequent inquiries for Extractors carrying 3 and 4 Langstroth frames, we have concluded to adopt these two new sizes. The 3 frame basket is in a can of the same size and style as the 2 frame. The 4 frame basket is in the larger can, with the cone or metal standard for the basket to revolve upon, leaving room underneath the basket for 75 or 80 lbs. of honey. It will be complete, with covers, and in every way identical, except in size, with the $16.00 Extractor, 13x20, which is intended for any size of frame.

Excepting with the $8.00 Extractors, all the different styles have strainers over the canal leading to the honey gate, and movable sides in the Comb Baskets. The $8.00 and $10.00 Extractors have no covers.

For 2 American frames,	13x13	inches	$8 00
For 2 Langstroth "	10x18	"	8 00
For 3 " "	10x18	"	10 00
For 4 " "	10x18	"	14 00
For 2 frames of any size,	13x20	"	12 00
For 3 " "	13x20	"	12 00
For 4 " "	13x20	"	16 00

THOS. G. NEWMAN & SON,
923 & 925 West Madison Street, CHICAGO, ILL.

Bees and Queens

HAVING purchased all the black bees within a radius of 6 miles, I now claim the LARGEST ITALIAN APIARY and best location for rearing **FINE QUEENS** in the State. I will continue to sell warranted Queens at the low price of **75** cents each. Extra selected tested (1885 rearing) **$1.50** each. Three L-frame Nuclei, every frame filled with brood, with selected tested Queen, **$3** each.

Address JAS. WOOD, North Prescott, Mass.
29A9t

WIN more money than at anything else by taking an agency for the best selling book out. Beginners succeed grandly. None fail. Terms free. HALLETT BOOK CO.
51A1y Portland, Maine.

Wooden Pails for Honey!

WE can furnish regular Wooden Water-Pails—well painted on the outside, and with 3 iron hoops and a tight-fitting wood cover, at **$2.25** per dozen. They will hold **25** lbs. of honey, and when empty, can be utilized for use as an ordinary household pail.

THOS. G. NEWMAN & SON,
923 & 925 West Madison Street, CHICAGO, ILL.

R. HYDE, Alderly, Dodge Co., Wis., will send you full colonies of **ITALIAN BEES** in 8-frame Langstroth hives for $3.00 each. Satisfaction guaranteed. Order early. 31A2t

---

Sweet Clover
—FOR—
BEE PASTURAGE.

IT MAY be sown on all waste places at any time, and will grow on any soil—in any climate. Price, 20 cents per pound; $2.75 per peck; $10 00 per bushel (60 lbs.)

THOS. G. NEWMAN & SON,
923 & 925 West Madison St., CHICAGO, ILL.

Dadant's Foundation Factory, wholesale and retail. See Advertisement in another column

---

Bee-Keepers' Badges at Fairs.

We have some ELEGANT RIBBON BADGES, having a rosette and gold Bee, for bee-keepers' use at Fairs, Conventions, etc. Price 50 cents each, by mail, postpaid.

Address, **THOMAS G. NEWMAN,**
925 West Madison St., CHICAGO, ILL.

QUEENS by Return Mail!
AT THE FOLLOWING LOW RATES:

Bred from my **Best Strains of Italians** and **Albinos!**

Uutested Queens		each	$ 1 00
" "		½ doz.	5 50
" "		1 "	10 00
Warranted "		each	1 10
" "		½ doz.	6 00
" "		1 "	11 00
Tested "		each	2 00
Selected Tested Queens		"	2 50

Descriptive Price-List free. Address all orders to

WM. W. CARY, - Coleraine, Mass.,
(Successors to Wm. W. Cary & Son.)

N. B.—On a single order for 50 Queens, we will give **10 per cent. discount** from the above list. 29Atf

---

Dadant's Foundation Factory, wholesale and retail. See Advertisement in another column.

LOS ANGELES.

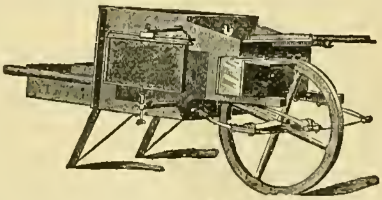
HOMES IN SOUTHERN CALIFORNIA.

"Stern winter smiles on that auspicious clime,
The fields are florid with unfading prime;
From the bleak pole no winds inclement blow,
Mould the round hail or flake the fleecy snow;
But from the breezy deep the bless'd inhale,
The fragrant murmurs of the western gale."
—Homer.

FULL information concerning the garden spot of the world, beautiful LOS ANGELES, THE LIVELIEST AND MOST PROSPEROUS SECTION OF THE PACIFIC COAST, furnished by the Los Angeles **Weekly Mirror** a mammoth **72** column PAPER, the best weekly in Californa SEND FOR IT. Single copy, three two-cent stamps; six months, **$1**; one year, **$2.**

Address THE TIMES-MIRROR CO.,
25A13t Los Angeles, Calif.

SYSTEMATIC AND CONVENIENT.



DAVIS' PATENT HONEY CARRIAGE,
REVOLVING COMB-HANGER,
Tool Box and Recording Desk Combined.

Price, complete, only .... $18.00.

THOS. G. NEWMAN & SON,
923 & 925 West Madison St., CHICAGO, ILL.

Dadant's Foundation Factory, wholesale and retail. See Advertisement in another column.

Imported Italians!!

FROM my importations of May 12th and July 6th. Selected CHOICE BREEDING QUEENS, finely marked, $8 each. Daughters of same, $1 each; 6 for $5; 12 for $9.
A. G. MOREY, La Grange Queen-Rearing Apiary, Cook County, Ills. 32A1t

---

100 COLONIES OF BEES for SALE at $5.00 each, in Baldwin Hives (frames 10x13 in.) They are nice Italians. Also a few hybrids for sale. JONATHAN GEORGE, Independence, Mo.
32A2t

BROWN GERMANS.—A limited number of fine Queens of this race for sale at 35 cts. each.
32A2t **W. G. FISH, ITHACA, N. Y.**

New and Enlarged Edition
OF
BEES and HONEY,
OR THE
Management of an Apiary for Pleasure and Profit; by
THOMAS G. NEWMAN.
Editor of the Weekly Bee Journal.

It contains 220 profusely illustrated pages is "fully up with the times" in all the improvements and inventions in this rapidly developing pursuit, and presents the apiarist with everything that can aid in the successful management of the honey-bee, and at the same time produce the most honey in its best and most attractive condition.

PRICE—Bound in cloth, $1.00; in paper covers, 75 cents, postpaid.

☞ **A Liberal Discount to Dealers, by the Dozen or Hundred.**

☞ The Monthly BEE JOURNAL for a year and the bound book, "Bees and Honey," will be sent for $1.25.

THOS. G. NEWMAN & SON,
923 & 925 West Madison St., CHICAGO, ILL.

ANY BODY

can introduce a Queen successfully by our **NEW INTRODUCING CAGE.** A Cage with full directions for using sent to each purchaser of a Queen. During the balance of the season, we will have only Syrians and fine Italian Queens for sale. Warranted, $1.25. Select, $1.50. Tested, $2.00. A **Tested Queen** of either race and one copy of the **3rd edition** of the **Bee-Keepers' Handy Book,** sent by mail for **$2.25.** Circulars and Prospectus free
32Atf **HENRY ALLEY, Wenham, Mass.**

POULTRY AND BEES

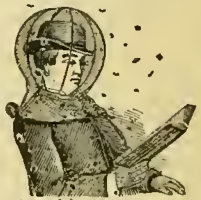
TWO PAPERS for the PRICE of ONE.

THE POULTRY JOURNAL is a beautifully printed and illustrated 32-page Monthly, devoted to the breeding and management of Poultry, Pigeons, Rabbets and Dogs, at $1.25 a year. C. J. WARD, editor and proprietor.

We will send the "Poultry Journal" and the "Monthly Bee Journal" for one year, both for **ONE DOLLAR.**

THOS. G. NEWMAN & SON,
923 & 925 West Madison St., CHICAGO, ILL.

A NEW BEE-VEIL.



There are five cross bars united by a rivet through their center at the top. These bars are buttoned on to studs on the neck-band. The bars are of best light spring steel; the neck-band of best hard spring brass; the cover is of handsome light material. It is very easily put together, no trouble to put on or take off, and folds compactly in a paper box 6x7 inches by one inch deep. There would be no discomfort in wearing it either day or night, and the protection against Mosquitoes, Flies, Bees, Gnats, etc., is perfect. The weight of the entire Veil being only five ounces. **Price, by Mail or Express, $1.00.**

Special discount to dealers, on ½ dozen or larger quantities.

THOS. G. NEWMAN & SON,
923 & 925 West Madison St., CHICAGO, ILL.

Dadant's Foundation Factory, wholesale and retail. See Advertisement in another column.

WEEKLY EDITION
OF THE
AMERICAN
ESTABLISHED IN 1861
OLDEST BEE PAPER IN AMERICA
BEE JOURNAL

THOMAS G. NEWMAN,
EDITOR.

Vol. XXI. August 19, 1885. No. 33.

APICULTURAL NEWS ITEMS.

EDITORIAL AND SELECTED.

Who bides his time—he tastes the sweet
Of honey in the saltest tear ;
And though he goes with slowest feet,
Joy runs to meet him, drawing near ;
The birds are heralds of his cause,
And like a never-ending rhyme,
The roadsides bloom in his applause,
Who bides his time.

We regret to learn that Mr. Silas M. Locke, editor of the *Apiculturist*, has been confined to his residence for three weeks by sickness.

The Tri-State Fair will be held at Toledo, O., from Sept. 7 to 12, 1885. Dr. A. B. Mason, of Wagon Works, O., is superintendent of the apiarian department, where $212 are offered as Premiums. Send to Dr. Mason for Premium List.

In Spain, more than a century ago, a traveller speaks of an apiary he saw, which contained 5,000 colonies of bees. As there is an abundance of pasturage in that "flowery kingdom," the statement is quite probable. Some 300 years ago the Spaniards took bees to Mexico and the West Indian Islands, and laid the foundation for the immense trade, which has for about 200 years been carried on in honey and wax in the West Indies.

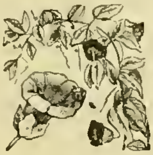
Bee-Keepers' National Union.—It would be well for all who think of any "pointers" for the forth-coming sheep-bees lawsuit, to send them to us for use on the trial. "In the multitude of counsel there is wisdom." All the elected officers have signified their willingness to accept the positions to which they have been assigned, and the President-elect sends the following for publication :

> *To the Bee-Keepers' Union:*—While I appreciate the honor of being elected your President for the coming year, I should have preferred some one better fitted for the work to be performed. To the best of my ability I shall do my part to make the Union a grand success. No matter what may be our differences of opinion, we must now all work unitedly, without shirking or jealousy, for the lasting good of the pursuit—for the defense of the right. JAMES HEDDON.

We hope that every bee-keeper will now take hold of the matter, and become a member of the Union.

Thos. W. Cowan, Esq., has become the successor of the Rev. Herbert R. Peel, as editor of the *British Bee Journal*. Mr. Cowan is an educated gentleman (speaking several languages), a genial companion, and an enthusiastic and successful apiarist. He will not find the editorial chair "a bed of roses" by any means, but we wish our Britist namesake and its editor much success. A photograph of Mr. Cowan ornaments the wall just over our desk.

Shade for Hives.—W. A. Pryal, of North Temescal, Cal., states that he saw an inquiry in some of the bee-papers some time since, for a vine that would grow quickly, form shade for hives, and, at the same time, be of some merit as a honey-producer. In his climate, in the vicinity of the Bay of San Francisco, the weather is never so hot (so our correspondent states), that shade for hives is necessary ; but from his experience with vines for trellises and growing in different situations in gardens, he knows of nothing better than that rapid-growing vine called *Coboca scandens*. It grows to a large size—has fine, dark-green foliage, and large, bell-shaped flowers, generally two inches broad and as many long. Vick's *Floral Guide* remarks : "Strong plants set out early in the spring, and in good soil, often grow 20 or 30 feet long, branching freely, and covering a large surface. Plants commence to flower when quite young, and continue in bloom until removed or killed by frost. Flowers are at first green, changing to a deep violet-blue. Put the seeds in moist earth, edge down, and do not water until the young plants appear, unless in a warm place and the earth is very dry. Care is necessary in planting seed, as it is liable to rot in the ground if too moist."



In California this vine grows much larger than it does here in the East, and, as there are no frosts to do it any great injury, it keeps on growing from year to year, and thus attains a large size.

When intended to be trained over hives, a rude trellis or arbor may be made of rough sticks—saplings having a few straggling branches will do. Insert in the ground in rows, 8 or more feet apart. At a convenient height from the ground, fasten poles or scantling. The rows should be from 8 to 10 feet apart, and parallel. Brush, or old boards split into strips, should be laid from one scantling of one row to those of the other. Train the young vines up the upright poles, and in a short time they will have reached the top, where they will start out in all directions over the arbor and completely cover it, and some of the branches will here and there hang over the sides in festoons. Try an arbor like this, and see how pretty it is.

The flowers, we are also told by our correspondent, are rich in nectar, and a bee will have only to visit one or two of these honey chalices to obtain as much as it can conveniently carry to its sweet home. A feature about the vine is, that it is always in bloom, and sometimes it is thick with flowers.

The engraving we obtained from the seed catalogue of Mr. J. C. Vaughan, 42 La Salle street, Chicago, from whom the seed may be obtained.

The Native Bees in Cuba are the common black, imported from Spain more than a century ago. They work vigorously all the time, and, under favorable circumstances, gather lots of honey, refuting that old whim, that bees will only work in warm climates enough to supply their own demand.

The Island of Corsica produced so much honey in ancient times, that the Romans imposed on it an annual tribute of 1,000 pounds. After the revolt of the Island against the Roman Empire, the inhabitants were punished by the doubling of that tribute to Rome. This tribute, which was supplied, shows that the honey crop of that Island must have been at least 6,000,000 pounds. And to-day that Island supplies immense quantities of honey and wax to France.

Honey Dew in England.—Last year the bee-keepers of America were troubled with the so-called "honey dew." This year we are comparatively free from it, but English apiarists have a profusion of it. A correspondent in the *British Bee Journal* remarks as follows, calling it "black abomination" :

> In my neighborhood the oaks are completely covered with honey dew ; nearly all clover honey has been spoiled with this abominable stuff ; my bees collect it to the exclusion of almost every other source. It is very annoying to see large trees of lime hardly visited at all by the honey bee, while their more sensible cousins, the various species of humble bees, are collecting the pure nectar. I never remember the honey dews so heavy and abundant as this year : the liquid, in some instances, I have noticed trickles off the leaves, and literally saturates the ground beneath. I should fancy the "dew" deposited by the oak aphidæ is darker in color than that deposited by any other aphidæ. Certainly I can produce a beautiful sample of the blackest of black aphidæan honey, which is almost the color of ink. My hives are full of it.

> This should be a glorious season for those ancient bee-keepers who aver that nothing beats a summer prolific in honey dews for a surplus of honey. Is there any commercial, domestic, or any other use for this black abomination ?

Cleanliness of Bees.—A correspondent in *Longman's Magazine* gives the following incident showing the dislike which bees have to bad perfumery. He says some years ago there was in my father's garden, a plot of early potatoes, some distance in front of a spot where stood several hives. Early in the season the "rooks" commenced to help themselves to the potatoes, grubbing the young tubers out of the ground, and doing so much mischief that some had to be shot, and the dead body of one was impaled in the middle of the plot, as a warning and example to the rest. Soon after this, a most unaccountable fury took possession of the bees. No one dared to approach them, for they attacked and instantly put to flight every person or animal which ventured into the garden. This went on for some days with most unpleasant results, and the bees were fast becoming a nuisance in the neighborhood, when the mystery was accidentally explained. Some one happening to pass by the impaled "rook" in the evening, discovered cause of all the mischief. Every exposed part of the poor bird's body, especially about the mouth and eyes, was literally bristling with the stings of hundreds of bees, which had sacraficed themselves in a vain and senseless revenge upon its offensive presence.

QUERIES

WITH

REPLIES by Prominent Apiarists.

Waxing Kegs and Barrels.

Query, No. 100.—What is the best method of waxing honey kegs and barrels ?—F. A.

G. M. DOOLITTLE says : "Have the kegs as warm as possible, by leaving them for a few hours in the sun, when from 5 to 10 lbs. of melted wax may be poured in at the bung hole. Now drive in the bung part way, and twirl the barrel so that the wax may touch all parts of the inside. Then remove the bung and let the wax out. If the wax is hot, but little will be taken by each barrel. See that the bung does not strike you when taking it out, as it will often fly with great force, if the wax is hot."

CHAS. DADANT & SON say : "Do not wax them. Buy the very best barrels or kegs, and keep them dry until you are ready to put the honey in them. Then, if they are good and the hoops are tight, they should not leak. We have had as many as 75 barrels of honey at one time, and never had any leakage, worth mentioning, except from barrels that were damp before the honey was put in, and allowed to dry afterwards."

J. E. POND, JR., replies : "Warm the barrel in the sun. Have the paraffine or wax melted ; pour a small quantity of the same into the barrel ; turn it over and over, and twirl it around till all the cracks are filled, then pour out the surplus and melt it over again."

G. W. DEMAREE answers : "Why not use cooperage made of soft wood which needs no waxing ? Leaky kegs and barrels can never be made entirely safe by waxing them. The shrinking and swelling of the wood will break the wax, and sometimes a heavy jar, when moving the barrels, will start them to leaking. Besides, it is expensive to wax barrels, etc. Good workmen can make tight vessels, and they cost no more than leaky ones. I have used kegs for 4 years made of linden timber, without any loss from leakage. Any of the standard works on bee-culture tell how to wax barrels, but I think they should advise the use of good tight vessels that need no waxing."

PROF. A. J. COOK, Agricultural College, Mich., says : "Use soft wood, and not wax at all."

JAMES HEDDON replies : "Have the barrels and kegs dry and warm, and hoops well-driven. Pour hot wax into the bung-hole, and roll the barrel around until the wax touches all parts, and then pour it out. A barrel or keg properly made of the right kind of wood, needs no waxing ; the waxing is quite expensive."

Flavor of Extracted Honey.

Query, No. 101.—What is the best plan to preserve the comb flavor of extracted honey ?—A. A.

DR. C. C. MILLER replies : "Any way that will keep it thick."

JAMES HEDDON says : "Let the honey be thoroughly ripened before it is removed from the hives, and after such removal, keep it in air-tight cans, in the coldest place you can find."

G. M. DOOLITTLE answers : "Let the bees thoroughly ripen it before it is extracted."

G. W. DEMAREE says : "Leave the honey in the hive till it is thoroughly evaporated and sealed. But some of it will be thicker than the rest. Keep each grade separate. Let it stand in loosely-covered vessels, in a warm store-room, till all the air globules have disappeared ; then it is ready to put up for the market or for future use. I have samples of extracted honey running back to 1876 that I think has lost but little of its original aroma."

CHAS. DADANT & SON answer : "Have it thoroughly ripe, and keep it in closed vessels, air-tight."

J. E. POND, JR., replies : "Allow it to thoroughly ripen before extracting ; then keep it in a warm and thoroughly-dry repository, where there is no chance of its being affected of any other flavor."

W. Z. HUTCHINSON says : "I am not certain what is meant by 'comb flavor.' To give extracted honey a fine flavor, it must be thoroughly ripened. In my opinion, this can be best done in the hive. When extracted, it should be stored in tin or earthen vessels, and kept in a dry atmosphere that is free from odors. The scum that arises should be skimmed off, when the honey can be put into glass or tin vessels, ready for sale."

DR. G. L. TINKER replies : "Seal it up as soon as extracted, and be careful not to heat it to the boiling point of water when liquefying it. What is termed 'the water-bath' plan is the best, taking care that the water does not boil. The cans should be kept in the water until the honey becomes quite hot. A wash-boiler may be used for the purpose, or any suitable vessel. If glass jars are used, they should be placed in the water when cool, and then slowly heated. Use wood shavings in the bottom of the vessel to set the cans on."

PROF. A. J. COOK says : "We cure, or ripen, and seal tightly, and we think our extracted honey is equal to any comb honey. People will always prefer comb honey, as the comb dilutes it. A spoonful of rich extracted honey soon cloys. When eating comb honey, we get less honey at each mouthful ; and so on nice, warm biscuit it remains appetizing forever. I have noticed that hearty laboring-men eat extracted honey with a relish, as do hearty children."

Do Queens Eat Pollen ?

Query, No. 102.—Do bees feed pollen to the queen ? If they do, why does she not have the diarrhea, seeing that she does not leave the hive for a cleansing flight like the other bees ?—R. A.

G. M. DOOLITTLE replies : "I think not. She feeds herself at all times when brood is not being reared."

J. E. POND, JR., says : "All answers to the above will be entirely theoretical. For myself, I believe the bees feed the queen nothing but honey, and only so feed her when she is engaged in depositing eggs in the cells."

DR. G. L. TINKER answers : "The queen is fed, during the time of ovipositing, a large amount of introgenous food, but I am unable to say whether it is in the form of bee-bread or the milky-food fed to larval bees. The queen suffers with the bees in an affected colony, and frequently dies long before all the bees are gone."

DR. C. C. MILLER remarks : "The few times I have happened to actually see the queen in the act of voiding, the evacuation could not be distinguished from water."

G. W. DEMAREE says : "That bees feed anything to the queen but pure honey, is mere conjecture. That she will lay eggs when there is no pollen in the hive, I know to be true. That bees will exhibit every phase of normality when deprived of pollen or its substitute, except that they cannot rear brood, is pursuasive evidence that the sole use of pollen by the honey-bee is to prepare food for the young while in the larval state. So far as I have been able to see, not a single ray of light has been thrown on the use or influence of pollen in the bee-hive since the days of Aristotle."

PROF. A. J. COOK replies : "I think it very likely that the queen is fed digested pollen. We all know that she lives longer than all the bees. She certainly must have pollen, as that alone furnishes nitrogen, and all her tissues contain this element. If her food is digested for her, that shows why she may live longer."

JAMES HEDDON says : "According to the basic principle of the pollen theory, the queen must consume large quantities of nitrogen, which I have no doubt, comes from the pollen of flowers, but I think the workers have much to do with the residue of the pollen from which it comes, before the nitrogen is given to the queen. I have no absolute proof to offer, but such a belief is reasonable when we consider the great amount of animal tissue thrown off by the queen, which we are told, is '3 times her bulk and weight, in 24 hours.' It is hardly plausible that one bee takes care of all the residue from the great quantity of nitrogen necessarily consumed. Neither is it necessary that the queen takes the nitrogenous substance into her intestines. Worker bees have a fortunate instinct not to void in the hive. The queen (one bee) could be an exception to this rule and not perceptibly interfere with the economy of the hive."

CORRESPONDENCE

Explanatory.—The figures BEFORE the names indicate the number of years that the person has kept bees. Those AFTER, show the number of colonies the writer had in the previous spring and fall, or fall and spring, as the time of the year may require.

This mark ⊙ indicates that the apiarist is located near the centre of the State named: δ north of the centre; ♀ south; O+ east; +O west; and this δ northeast; ˜O northwest; O~ southeast; and ♀ southwest of the centre of the State mentioned.

For the American Bee Journal.

Cause and Prevention of Diarrhea.

DR. G. L. TINKER.

As a disorder among bees, diarrhea has several causes, which, operating in unison, produce the effect—diarrhea. In some cases one cause predominates, and in others, another. Usually cold is the primary cause, and the other causes are developed consecutively. It does not appear that any one of the causes may by itself develop the affection; for instance, thin honey and confinement in a moderately cool atmosphere may produce the mischief, in a colony, very early in the winter. Again, the stores being good, the hive small, thin-walled and insufficiently ventilated, the approach of continued severe cold develops the phenomena in order as follows: Dampness in the hive, condensation of vapor, followed by unabated chilliness of the bees, excessive consumption of food, and the ultimate causation of diarrhea from slowing up the respirations and checking the pulmonary exhalation of water.

Cold as a radical cause, however, often produces as great havoc as bee-diarrhea. It has been held that the latter is the source of more loss than all other causes of loss put together. This is a mistake, or at least it is in some winters. If the cases of spring dwindling be added to those dying of diarrhea, they will still not equal the number lost during the past winter from the direct effects of cold. We will simply observe here that the result was forced starvation; the bees being unable to reach ample stores near by. In a very large number of cases the bees starved while protecting, with a true mother's instinct, their brood. They chose to die rather than abandon it. If on the middle of last March the bees could have had one or two warm days, so that they could have brought honey into the cluster, we would not have had so great and unprecedented a mortality to record.

Seeing that great loss would occur from the continued severity of the cold (the ground was frozen nearly 4 feet deep) last March, we took occasion to note carefully the condition of over 100 colonies that died here at that time and subsequently, from spring dwindling. We found insufficient protection and badly managed ventilation in all cases. We noted especially that the bees were not confined to their hives over four weeks at a time. Up to Jan. 10, they had flights every few days, then again on Feb. 3 and 28 they had free flights, especially at the latter date when all the bees were out, and very few colonies had died. Then again March 26 all flew that were alive, but there were then hundreds of colonies in this country wrapt in the mysteries of death, and great numbers followed after, from spring dwindling that did not cease till late in May. Of course there were plenty of cases of bee-diarrhea, but I wish here to remark that it is unlikely that since the bees had a free flight as often as every 4 weeks, that the bee-bread they consumed should have been the cause of their death. Those who hold to the pollen theory have told us all along that where there were frequent flights there could be no diarrhea. Surely no accumulations of bee-bread could take place in four weeks sufficient to irritate the intestines! The pollen theorists are advancing a highly unreasonable hypothesis!

We examined minutely the discharges of the bees on every occasion of their flight. They came out of many of the hives greatly distended, but the discharges were nearly all water, while the quantity of pollen was insignificant. If the consuming of much bee-bread is a cause of bee-diarrhea, then it would be reasonable to suppose that whenever considerable accumulations of pollen husks and "nitrogenous matter" had taken place, diarrhea would invariably follow as the effect of "the cause." But I have just shown that we had the most inveterate cases here during the past winter, and yet there was not enough pollen grains in the discharges to make the matter of note. Now I can bring abundant proof that bees have been constipated with pollen husks, etc., and so burdened as to be unable to fly before evacuating, and still there was not a sign of diarrhea. How is this? Will theorists say that there are exceptions, that bees may be *sometimes* over-loaded with fecal matter without there being diarrhea? If so, the theory should point out the cause of the exceptions.

Bee-diarrhea and bee-constipation are as unlike as two distinct conditions can be; that the two have no relation to each other, by way of cause and effect, I am well convinced. From what has been said by some writers, one would think that the diarrhea of bees was little else than a discharge of bee-bread. But it is not so, in many cases at least. In all the cases I have ever seen of true bee-diarrhea, the large proportion of water was the most marked feature. Often in a few days after a good flight and exposure to severe cold, solitary bees would run out of the hive and discharge nothing but a dirty yellow-colored water. I have often witnessed simple constipation and copious semi-solid evacuations after a long period of confinement, but in these cases there was not the remarkable loss of vitality nor the spring dwindling that is sure to follow (if the colony lives till spring), as is the case where the bees become bloated with water, which fact I now look upon, occurring late in winter, as the tell-tale evidence of a fearful struggle with cold.

Bees affected with diarrhea soon become weak and sluggish, they come out of the hives slowly, often trembling, and many are unable to fly. Impaired vitality is one of the most striking features of the malady. With every cold snap many fall dead from the combs. If the colony survives till spring, a single cold night will cause many to fall, but a week of moderate cold and confinement will cause handfulls to fall from the combs. Often their wings and legs drop off in falling, or soon afterwards, so that they appear to be almost decayed before they die. If the colony lives on into May, they are soon unable to care for their brood, they continue to fall dead on the bottom-board or fly out to return no more. About this time, or shortly before, the queen dies when none are left but a few handfuls of young bees that appear every day on the alighting-board *en masse* to enjoy the gorgeous sunshine! This is spring dwindling.

The cause of bee-diarrhea rests on far different grounds than that set forth by the pollen theorists. In fact we do not now regard pollen or bee-bread to be even a factor in the causation, unless it shall be established that its consumption by the bees affords a special nidus for the development of putrefactive germs. We can understand how the germs may be developed, how that the bees having suffered a great loss of vitality from long struggling with cold, extensive germ development becomes possible. In this case *cold* is still the primary cause, as I have so long contended. Germ development in man or animal is invariably restrained by a vigorous vital organism. If bees can be protected so as to sustain their vitality, there need be no fears from this source. But even here the successful prevention of diarrhea must turn on other measures than the taking of their natural stores and substituting sugar syrup. So long as there are instances of the most perfect and satisfactory wintering on the natural stores in the very midst of those localities where many have fed sugar syrup and lost all or a part, we may feel sure that when we understand the matter fully, we shall be glad if we can always have sufficient of the natural stores to winter upon. Again, the results of the past winter have finally set at rest that specious and alluring argument that the pollen of one locality is any more hurtful, either from quantity or quality than that of any other.

We account for the watery accumulations on the humidity theory, and as many may not fully understand it, we will give our version of it. The animal heat of bees is developed almost wholly in the process of the oxygenation of the hydro-carbons (honey and sugar) in the blood. It is increased by exercise as in other animals. In winter confinement bees raise the temperature of the cluster when necessary by accelerating the respiration, and in some instances it seems probable that they flit their wings and restlessly move over and about each other. Now, the natural respirations of the honey-bee at rest on a warm day are about 200 per minute. On the approach of cold they begin to respire more slowly, and necessarily develop less heat. Those on the outside of the cluster in winter do not breathe over 40 times a minute, and many of them not over 20. Inside of the cluster I have not been able, of course, to count the respirations, but they are certainly slower than in summer time.

In this connection I have a few words to say about hibernation. To this extent and to the extent so ably set forth by the Rev. Wm. F. Clarke, bees hibernate, and the slow respirations and lessened development of heat are the evidences of it that are indisputable. Say what we may, bees *do* hibernate under good conditions.

The following incident will illustrate a case of hibernation: On March 26, 1885, about noon, all my colonies were flying but 4 nuclei and one fine Syrio-Albino colony in a double-walled hive. With a steel hook I raked the debris from the bottom-board, and felt satisfied they were alive. As none came out, I hooked on to the frames and shook them, but there was no stir. I then pounded upon the hive, but all was still. Some friends standing near, finally said, "Doctor, it is no use; that colony has gone up." I had began to think so myself, but kept pounding away and shaking the frames with the hook, but it was fully ten minutes before a bee appeared. It proved to be a very large and well-wintered colony. They had not a particle of upward ventilation (as was the case with most of my hives), but a very large entrance, into which the cold winds had blown so hard, at times, that I had felt very anxious about them.

The accumulations of water in the intestines of bees takes place when they are required to consume a large amount of food in order to sustain a life-heat. When it becomes very cold they are unable to maintain, in the presence of counteracting agencies, the forced, prolonged and high rate of the respirations necessary to expell or rather exhale the large amount of water produced in the oxygenation of so much food. Under the severe physical strain their vitality is early impaired, and they become less and less able to keep up a proper temperature of the cluster. They respire slower and slower, and there is less and less exhalation of water. Meantime they are eating largely, they have no kidneys, and accumulations of water must take place in the intestines. If about this time we see a bee come out of the hive to die, we perceive that it breathes only 3 or 4 times a minute, drags itself along and tells only too plainly the story of exhausted vitality. It has grown old in undue physical exertion, and can do no more.

A very damp atmosphere and thin honey are causes that favor the accumulations; the first by the prevention of free evaporation of water from the pulmonary surfaces, and the second from the taking of water in the food which must be carried off in the respirations at a time and under conditions when such exhalations are greatly impeded.

If we place an affected colony in warm quarters, so that it can dry out, it is immediately benefited, and without a flight the bloated condition of the bees is greatly relieved. On the contrary, if bee-bread were the cause, there would no benefit whatever arise from the application of heat, since "the cause" could not be removed without a flight. On no other hypothesis than the above can we satisfactorily account for all the phenomena.

If the normal temperature of the cluster can be readily maintained above that of the surrounding medium, free evaporation and the expulsion of the vapor from the immediate vicinity of the bees is accomplished, and they will be kept dry and healthy so long as a favorable temperature can be easily maintained. If now the bees are so ventilated that they will not get over-heated, they will hibernate. The principle involved here is the same as in drying out a damp, cool room. We place a fire in it, warm it up, and the dampness is expelled. In the same manner if we so prepare the bees for winter that they can maintain a temperature of 50° just over the cluster, the bees and combs and hive will keep dry, and no diarrhea will result. Take a colony on the summer stand with the brood-chamber tight on top as propolis can make it, and with the cap filled with chaff; thrust the hand down on to the frames over the cluster; if it feels sensibly warm the temperature is 50°, and the colony is wintering all right. But if cold, and it remains so long, there is danger.

We consider heat to be the only true remedy for bee-diarrhea, as it is the only reliable preventive. In my first paper on wintering (see page 7, Vol. XVIII of the BEE JOURNAL,) occurs the following passage: "Heat is life, or one of the essential conditions of life, which the instinct of the bees has taught them to carefully conserve." In making this statement I had reference both to the protection and the system of ventilation that should be given. I have nothing to add to this now, but believe more firmly than ever that on the conservation of the heat of a colony of bees will depend much of the success in the wintering of the future. I submit the following conclusions:

1. The use of pollen or bee-bread by bees in winter confinement is not detrimental to bees when they need it, and like most of the other animate beings, they need it, or its equivalent, pretty often. We consider its presence in the hive indispensable to the most successful wintering.

2. Hibernating bees winter the best; frequent flights are unnecessary.

3. Bee-diarrhea in a properly-ventilated hive, having good natural stores, does not occur unless the temperature in the hive falls so low as to condense the vapor.

4. Upward ventilation is not only against the instinct of the bees, but mismanaged (as it usually is) in allowing the ready escape of the heat from the cluster, has been a cause of incalculable loss.

5. Lower ventilation either outdoors or in-doors is the natural and proper method of ventilating bees in winter confinement; but it must be free.

6. Bees cannot be wintered here at the North on the summer stands with safety by any system of ventilation on a full set of combs in single-walled hives.

7. A large, well packed double-walled hive is perfectly safe, if its brood-chamber be contracted to 5 or 6 combs. It is safe in this locality on 10 to 12 combs. It gives the best results, but is more expensive than cellar wintering.

New Philadelphia,○+ Ohio.

For the American Bee Journal.

A Year of Disasters.

S. I. FREEBORN.

The season of 1885 has been one of extremes, the equilibrium seems to have been destroyed by our exceptionally hard winter, and it has been impossible to tell by to-day what to-morrow would be—hail, rain, thunder, lightning and embryo cyclones have been of unusual frequency. More damage has been done by wind and hail in this county this season than in any season for 30 years.

Basswood, which is usually our corner-stone and the crowning glory of bee-keeping, has come and gone. In the war of elements only two days were our bees allowed to work uninterruptedly during its two weeks of bloom, though they worked some portions of the other twelve days. Considering the very unfavorable weather, we are very thankful for what honey we have obtained. Our report up to date is as follows: From 180 colonies we have an increase of 150 colonies, and obtained 9,500 pounds of extracted honey, with a fair prospect of getting a fall crop should the rain cease, but at present it rains every day. If this country is a fair type of the rest of the world, honey ought not to be "a drug in the market" this year.

I see Mr. Stewart is somewhat fearful of cyclones, and speaks of a tight board fence as being a protection. I built one once on the west side of my Sextonville bees. Last fall they were chaff-packed. It answered well for a protection, but proved to be too much of an air-excluder in hot weather, when the mercury was up among the nineties. As for proving a protection in the event of a cyclone, should a genuine one strike us, it would be about as good as chaff, and even Mr.

Stewart's big stones that he freights his hives down with, might take a ride and keep company with his hives in mid-air, but we hope for better luck for him and all other bee-men.

I feel like expressing my sincere thanks to my many friends in the bee-fraternity for the good things they have written of me, and for the counsel, sympathy, and assistance proffered me. I feel that I am in good company, and that bee-keeping has its joys as well as its sorrows.

Ithaca, ♀ Wis.

* * *

For the American Bee Journal.

Bee-Poison, Diarrhea, Pollen, etc.

JAMES HEDDON.

With much interest I have just read Father Langstroth's article on bee-poison. So far as I know I am the most sensitive to that poison of any of our bee-keepers. Many of the symptoms he there delineates are just the ones I suffer with when I come within the odor of the hives, especially in the after-part of the season. Droop of the eye-lids, itching and burning about the eyes and throat, a dull, gloomy feeling, are all common symptoms with me. I may also add an intense itching far into the ears, extending through to the glands of the mouth. Some nasal symptoms similar to hay fever. Sometimes the itching sensations reach down the air-channels as low as the lungs, and it is a queer sensation to itch internally.

All these are produced without stinging. I believe that constant stinging is productive of feelings that may be termed neuralgic-rheumatism. When, for a time, I keep away from the hives, I recover from these symptoms, but upon a return, they always recur. My experience is different from Mr. L's, for I always have the most trouble when near the bees. For the past two months I have worked with the bees most of the time, and I am again suffering much from the old trouble. I have little faith that I shall ever wear out the effects of this venom. I know of others who are troubled somewhat as I am, but not to quite the same degree.

FIRST CAUSE OF DIARRHEA.

I wish to correct Mr. Stewart's statement that I claim that anything acts the part of "first cause" in the production of bee-diarrhea. "Prime cause" is not first cause. I will once more, and I hope for the last time, try to describe what I mean by "prime causes" and "adjunct causes." A prime cause will produce the effect alone; an adjunct cause will fail to so produce the effect that is only becoming a cause when in company with the prime cause.

Cold is a great adjunct-cause of fecal accumulation. It is not the prime cause, because such accumulations take place independent of cold. Pollen is the prime cause, because fecal accumulations take place with it alone without the aid of a low temperature. Cold (so to speak) cannot produce fecal accumulations alone, as I proved last winter by freezing to death nearly 100 colonies that had no fecal accumulations. If Mr. Stewart will come to the North Western Convention next October, we can each hold the other to the point, and discuss the matter without misunderstanding.

BEE-DIARRHEA AND POLLEN.

If Mr. Gresh is of the opinion that Prof. Cook thinks there is any genuine bee-diarrhea common to our bees, that does not come from pollen, I feel certain that Mr. Gresh thinks wrongly. Mr. Gresh thinks it is unjust for me not to have read a certain old article of Mr. Doolittle's. However, according to Mr. G's statement, Mr. D's old article gives no systematized summer and winter management. I mean a system of contraction that at the same time works to both summer and winter advantage. If I am in error, the records will show it; and Mr. Gresh's last few years' practice should also show it.

If Mr. Doolittle has also systematized the same management cotemporary with or prior to me, all well and good. That only adds proof to the value of the system. All I said was that, "so far as I have read, I have not seen it systematized as a summer and winter management;" and that is true.

For three seasons I have successfully practiced the contracting method for the combined purposes of crowding the bees above with their surplus to such an extent as to leave the brood-chambers in a condition to feed syrup for winter, and in a compact form for the bees and for other wintering purposes; and during all this time I have seen nothing more than fragments of the method discribed and hinted at by any one. I would like to please Mr. Gresh, but while I would be satisfying him, I might dissatisfy many others.

Dowagiac, ♀ Mich.

* * *

For the American Bee Journal.

Horticulturists vs. Apiculturists.

W. A. PRYAL.

In casually reading the July number of the *Gardner's Magazine*, I chanced to notice where a lady correspondent of that journal seemed to be in great distress about her grapes, of which she has many fine varieties, and complains that although she has tried her best, she is unable to get any fruit for table use. She attributes her loss to her neighbor's bees; he having some 12 colonies of them. She has been enclosing the bunches in paper bags, and, though the experiment is a success, still she considers it too laborious and costly to warrant its use to any great extent. She enquires of the editor if he knows of any way to prevent bees from doing her grapes further damage. To this the editor replies that he has made the bee and grape subject a special study, and he is firmly convinced that bees will destroy grapes every time, and to prevent their depredations, he advises the trapping of them.

As the editor, Prof. Mecham, is a recognized authority on the topics which he treats upon in his magazine, the above is pretty strong evidence against the "busy bee," who, the Professor thinks, is so much of a "busy body" that he breaks feloniously, so to speak, into his neighbors' grapes. All the apicultural editors and writers and bee-keepers have held otherwise, while the fruit growers and many of the horticultural writers and editors have taken the same side as the Professor, though perhaps not so emphatically.

It does really seem that the evidence against the bees is accumulating, and that in a short time the fight against bee-keepers will be commenced "all along the line," and it will be in order for apiarists to "fight it out," if it takes all—not summer; but all—the defense fund, and more too, if bee-keepers do not join the defense promptly.

We, too, have studied this question—that is, the bee and fruit controversy, but have had no experience with grapes, as they do not grow here near the Golden Gate, as the nights are a little too damp and cold. But with all kinds of small fruits and apples, apricots, cherries, pears, plums, peaches, nectarines, etc., we have had as much experience as any one in the State, and our place is run as a fruit farm, and we, and many of the folks in the vicinity, have bees—there being, perhaps, over a hundred colonies within a radius of a mile of us. We have never known a bee of its own accord to damage any of the large fruit. Our great annoyance is caused by linnets, these birds and the jays will often, in a few days, destroy hundreds of dollars' worth of cherries and apricots, to say nothing of other fruits. When the birds commence on the apricots, the bees just "sail into" them, too, and hastily suck up the rich juice of this most very excellent fruit.

The only fruit that we can accuse the bees of playing havoc with, is the raspberries. This fruit is grown by the acre on our place, and the J. Lusk Canning Co., of this place, has nearly a hundred acres of them close by. During the last two weeks there has been a scarcity of flowers, which is unusual in this section, and the bees who are proverbially known to be industrious, have to "improve each shining hour" or die—so finding plenty of ripe raspberries overflowing with juice, they make haste to gather it, which is an easy matter when the fruit is a little over ripe. Always many berries will be in this condition unless they are picked daily. Firm, ripe berries the bees do not harm. We have seen the bees swarming on the berries when they were allowed to go a day over time, or when they would ripen a little sooner than was expected, and were left for a while unpicked. All the juice would be sucked out and nothing but the pulp would remain on the stems.

CHINAMEN AND BEES.

It is interesting to see Chinamen picking berries when they are thus covered with bees. They are terribly afraid of bees, and of course the bees are not in a stinging mood when in quest of food. Chinamen do all the berry-picking hereabouts, and though they are always on the lookout for bees, still they get hold of an occasional one which resents the pressure of their fingers by giving the celestial a gentle touch with their "business end," which makes John fairly howl with pain.

We did at one time expect the Canning Company would institute proceedings against us for damage caused by our bees in damaging its crop, but it would no doubt have a hard time to prove the ownership of the bees, as so many other persons also keep them in this vicinity. We are told that at the cannery above named, which is the largest in the State, millions of bees congregate about the fruit when it is being pared and placed in the cans, preparatory to cooking; also, that the bees gather around and under the tables, boxes, barrels, etc. They are no doubt annoying to the help, many of whom are girls and women. To get rid of them, the employes turn on a jet of steam which soon kills them; but the dead bees sting all the same, and many get "put up" with the fruit.

This subject is an important one to bee-keepers, and we shall be likely to study it up and report later in the season. One thing is certain, and that is, bees do not trouble fruit when they can gather nectar from flowers. In this State other insects are far more damaging to the fruit crop than bees are.

North Temescal,⊷ Calif.

For the American Bee Journal.

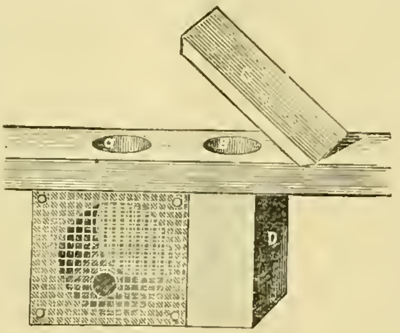
Introducing, Finding Queens, etc.

HENRY ALLEY.

There are hundreds of inexperienced bee-keepers who would purchase queens were they sure of introducing them without loss. The very nature of my queen-rearing business has led me to experiment largely in order to discover some absolutely safe method for introducing both fertile and unfertile queens without loss. At last I have a plan by which I am successful in every case. The conditions are: First, the colony to be requeened should be queenless three days, then have at hand a small wooden cage 2¼ inches long, 1½ inches wide, and ⅞ of an inch thick. With an inch bit make a hole through the cage so that the outer edge will be ⅜ of an inch from the end of the block. By so doing one end of the latter will be left solid. Now, with a ½ inch bit make two other apertures in the edge of the block; one through into the large hole, so that a queen-cell can be inserted or a queen placed in the cage, the other aperture should be made nearly through the block, and connected (by cutting out a small piece) with the large opening.

The illustration shows the arrangement. The cage is represented attached to a section of the top-bar of a brood-frame. I use these cages for hatching cells or for introducing queens. I call them the "combination nursery and introducing cage." A represents the aperture in which a queen-cell is placed. The food (sugar and honey) is placed in aperture B, to prevent the bees from injuring a cell when placed in the cage, or from eating out the food, a tin slide C or cap is provided. When a queen is to be introduced, the slide is removed from the sugar, and in the course of a few hours the bees clean out the food, and the queen is easily, quickly and successfully introduced. The hive should not be opened again for a week at least after the queen is introduced. When it is opened, remove only the centre comb, and if eggs are found in that one, you may be sure that the queen is all right, even should the queen not be seen.

One point in this connection I wish to speak about: Mr. L. C. Root is credited with the statement that a shipping cage should not be used for an introducing cage. I was much surprised when I read the statement in the *American Agriculturist*, and could not believe that it was made by Mr. Root. In theory that statement is important, but in practice it is of no value. Many of our breeders are shipping hundreds of queens in the cages intended to be used to introduce the queen in—in which she is shipped. Very few queens are lost in this way, if the statements are correct that come to us. Queens are lost in introducing because the proper time is not allowed a colony to remain queenless before introducing a strange queen. Three days is about right. I see that Mr. James Heddon is of the same opinion. It has been my practice for 20 years to introduce no queens except as above. As to the scent, it will require but a moment to scent the new cage, queen, and the whole colony.



It will be seen that the cage described will, according to Mr. Root, be just the thing, and the difficulty he speaks of in introducing queens will be obviated entirely, as these cages remain permanently in the hive, and while the strange queen is confined in the cage, she would become thoroughly scented with the same odor that permeates the colony. If this cage is to be used to hatch queen-cells in, it may be placed near the top-bar, and apertures made in the bar to correspond with those in the cage.

Formerly in introducing qeeens we placed the cage in one of the bottom corners of the frame. The work of introducing a queen requires but a few moments. Of the hundreds of queens we introduce every month, of both fertile and virgins (many of the later are two weeks old when introduced), none are lost where the colony is left queenless three days. If introduced within 48 hours, about 25 per cent. will be lost, whether fertile or virgin queens are used.

HOW TO FIND A QUEEN IN A FULL COLONY.

Another thing deters many bee-keepers from procuring queens. It is very difficult for an inexperienced hand to find a queen in a large colony. I will give one or two methods that may please the novice. First, blow smoke in at the entrance, and drum lightly on the sides of the hive; this will alarm the bees when they will fill with honey. In the course of 8 or 10 minutes raise the honey-board or mat and examine it to see if the queen is there. I can usually find them in that way. If not found, remove the comb that can be drawn out the easiest, and examine that, and if the queen is not found, place the comb in an empty hive, and do so until all have been examined or the queen found. If not found on the combs, examine the bees in the hive. If not found there, look the combs over again, and replace them in the original hive. If after all that trouble the queen is not found, place one of Jones' bee-guards or a drone-trap at the entrance of an empty hive, and shake the bees from all the combs in front of it. The bees will all pass through the perforations in the zinc while the queen and drones will be left outside, when the queen may be easily found and caged.

The above is intended for the novice and inexperienced bee-keeper. The expert is not obliged to resort to such methods to find a queen.

In case the colony has a virgin queen (and by the way when this is the case, the expert has considerable trouble to find a queen, and the novice would experience more trouble and vexation than he would to find a dozen fertile queens), the best way to find her would be to go to some hive having a fertile queen and get about a pint of bees, and place them in the hive having the virgin queen.

In the course of an hour the virgin queen will be found (balled) with about 100 bees trying to sting her She may then be removed, and the fertile queen introduced immediately. While a fertile queen may be introduced at once to a colony from which a virgin queen was just removed, a virgin or a fertile queen cannot be introduced to a colony from which a fertile queen was just taken, except by the method above given.

If one will follow the directions and method given for introducing queens, less queens will be lost, and the cry, "My queen was introduced, but has not laid an egg," will not be heard again. I have thoroughly tested the above method, and I can pronounce it perfection in every sense that word implies.

Wenham,6 Mass.

Exchange.

Swarms and Swarming.

REV. O. CLUTE.

Inexperienced bee-keepers often hail the swarms with delight. They have an impression that the more swarms they get the more prosperous they are, but the old bee-keeper looks upon this process with much less favor. If he could prevent his colonies from swarming at all, he would usually do it. If a colony swarms often it will store little surplus, and generally swarms will be only able to fill the brood-chamber. If the colony did not swarm at all, and kept its many workers storing surplus honey, the yield in a good season would be very profitable. As many bee-keepers still allow their bees to swarm, they should be prepared to take care of the swarms when they come,

Have hives and frames ready. If you have empty combs use all the good, straight worker combs for the brood-chambers of the new colonies. Watch the bees to prevent the escape of swarms, and to know from which colonies they issue. When the swarm clusters, get it into the hive in some way. The way of doing this depends on where the cluster is. If it is low down, on a tree or bush, you can often shake it into the hive, or you can shake it into a large tin pan or into a basket and pour it into the hive, or you can cut off the branch and lay it down in front of the hive or on top of the frames. If the cluster is high up, you need a ladder and a rope, etc., to get up and saw the branch off and let it down. Sometimes a long bag made of cheese-cloth, the mouth kept open by a wire hoop, fastened to the end of a long pole, can be used to advantage. It can be put up under and around the cluster, the bees shaken into it, then brought and poured into the hive.

When the bees are once fairly started into the hive, put the top on loosely so as to be sure of plenty of ventilation. As soon as all, or nearly all, are in the hive, carry it to the place where they are to be left, and set it carefully in position. Any stragglers not yet in will go back to the hive from which they issued. Sometimes, after a swarm is hived, and everything seems all right, it will issue again and leave for parts unknown. To prevent this is easy. As soon as the swarm is in its new quarters, go to another colony and take from it a frame containing eggs and unsealed brood and give it to the swarm. The bees at once begin to take care of the brood, and, getting thus the home feeling, they do not desert the hive. I have never had a swarm desert, if it had thus been given a frame of unsealed brood.

Iowa City,o+ Iowa.

For the American Bee Journal.

Important Subjects at Conventions.

W. H. STEWART.

I have carefully read the many reports of the bee-keepers' conventions, as published in the BEE JOURNAL, and although many good thoughts are there expressed, I must say that some most important items have been overlooked or neglected—items that pertain to our common interest. Every year the important question comes up, "Where and how can we best dispose of our honey?" Many recommend that each bee-keeper should create a home market. This would answer the question in some localities where there is a dense population, and where but few bees are kept; but where there is but a sparse population, and many bees are kept, it is impossible to find a home market. Many members of those conventions have a reputation of being astute business men; and it seems to me that such men, when met in counsel, should be able to devise ways and means for the proper disposal of the surplus honey crop,

Another important item is the rates of freight on honey, and it seems to me that the united effort of those bee-masters, if turned in that direction, would accomplish much more for the fraternity than by the discussion of less important questions, such as the use of honey-boards, introduction of queens, prevention of after-swarms, reversible frames, chaff-hives, etc.; for these are matters that are treated of in all the bee-books and bee-papers, and can be determined by practical experience by all bee-keepers. There are many bee-keepers in the land who are able to solve these minor problems, and produce many tons of surplus honey, and yet when they have it put up in good marketable shape, the same most important questions come up—"What can I do with it?" "How and where can I sell it for its full and true value?"

The bee-keepers of the United States should be posted as to the demand and the prices of honey in all the markets of the civilized World. They should be as familiar with the markets of London, Paris, St. Petersburg and Rome as they are with that of New York, Cincinnati or Chicago; and also should be able to get the lowest possible rates of through freight on cars and boats.

But what is or has been the *modus operandi* at those conventions in regard to the sale of honey? We notice that on several occasions certain individuals had on exhibition large quantities of honey, and were doing their best to sell the same, and yet during the whole session very little was said or done in regard to the sales or market for bee-keepers in common. Again, these men had most likely secured low rates of freight in moving their honey to and from those conventions, but they had done little or nothing for others in that line. The idea in regard to these matters has, therefore, seemed to be "every man for himself," and a "survival of the fittest."

It is true that the BEE JOURNAL reports the price of honey in many of the cities, but not all; and then we are left to take our chances and send our products to a stranger who sells it as he thinks best, and reports also as he thinks best, and at the same time we have no means of ever knowing positively where our honey went or what price it brought. Why not have in each city a commission man chosen by the National Convention, to take charge of what honey is shipped to that market? Would it not be well for these commission men to have an understanding with each other, and so manage that honey could be shipped from one point to another to make the best sales?

Orion,9 Wis.

For the American Bee Journal.

My Method of Hiving Swarms.

ROBERT CORBETT.

Having read the BEE JOURNAL for years, and noticed several methods of hiving swarms, I desire to give mine.

Mr. Hutchinson (on page 437 of last year) says that his apiary is located in a young orchard of low trees, in which there are no limbs but what can be reached by means of a ladder. He speaks of his hiving implements, clothes-basket lined with cotton and covered with burlap sewed fast at one side. I also have a step ladder, a pair of heavy pruning shears to cut off branches, a fine-tooth saw for cutting large limbs, a quart dipper, a fountain pump, and two large tin-pails. When the swarm begins to cluster, Mr. H. has to see that they locate in a convenient place for basketing them. If they do not so locate, he must use his shears, and this takes time. After he has the trimming done, he brings the basket, lays the cover over on one side, places the basket close to the cluster, shakes them off the branch, drops the basket a little, throws over the cover, and secures them for the present from escape. Bees will not live in their house, if it is open, neither will they stay in his basket without being compelled to do so. Mr. H. deserves much credit for the way in which he handles the bees after getting them to the hives.

In the BEE JOURNAL of July 30, 1884, and on page 487, is an article on this subject by G. M. Doolittle, who practices the clipping of queens' wings. I have not done much hiving with the queens' wings clipped, and neither would it suit me, as I have but one hand to work with, and so I cannot hold the queen and clip her wing at the same time. The plan may be a good one, but it does not suit me. If the bees are under control, there will be no trouble, even in letting the queen have her flight with the bees.

The following is a description of my basket and pole: I take a fruit skit or basket (the basket is bell-shaped, and while occupied with fruit the wide end is up, but when used for bees the wide end is down), and as it is made of very light material, and to strengthen it, I take a ⅜-inch board and cut it to fit in the smaller end of the basket, and drive some fine nails from the outside into the edge of the board to secure it in place. Then I bore a ⅜-inch hole in the centre through the board, and through it I insert a bolt with a loop in the top, and a burr beneath to secure it. I secure a harness strap with a double-keeper and buckle, this is run through the loop of the bolt, and through loop on snap connecting it with the basket. When double, 6 or 7 inches long, the sides of the basket having ½-inch spaces, I take my knife and cut a number of diamond-shaped holes for the bees to go through. The size of the box, when done, is 10 inches deep, 10 inches wide at the mouth, and 6 inches at the top.

My pole for manipulating the basket is sawed or ripped from a 2-inch plank, dressed down to a 2-inch pole, and put a band or ferrule on either end. In the top end I bore a ¼ inch hole in which I insert a rod that will fill it tightly, the point driven and lapped back, enclosing an inch ring in the lap. It should extend 12 inches beyond the pole, with a curve to throw the basket to swing outside, or clear off the pole. In the lower end I bore a half-inch hole, and insert a rod that will fill it, drawn a little to make it sharp, so you can stick it or force it down into the ground. This pole should be from 10 to 14 feet long, to suit the trees from where you expect to capture bees, or you can have two (a shorter and a longer one), then they can be inserted to the height of the pitching place of the bees.

My way of manipulating the pole and basket is as follows: When a swarm commences to issue, I take hold of the pole, snap the basket into the ring in the end of the curved rod on the pole, and plunge the basket into a tub of water. If the swarm is not beginning to cluster, push your bee-skit among the thickest part of the leaves; they will often go right to it and pitch on it; but if not, notice when they begin to pitch and get a small cluster, then apply the basket right against the cluster, and often in three minutes you will have one-half of the swarm on your catcher. Then I gently move my basket from a foot to 15 inches and take hold of the punching or jarring stick that has a piece of thick cloth or soft piece of leather nailed over the end, to save the branch from being barked by the jarring of the bees; those jarred off, in rising, will make for the cluster on the basket. Now having them from the branch, I stick the iron spear into the ground, that is, the lower end of the pole, till all is settled, while I do something else. When all is ready, I lift the pole, lower it, unsnap the basket from the ring, carry it along as I would a basket of cherries to the location of the hive, which sits on a canvass, and there shake off or lift off a small portion of the bees; the bees will spread around as they fall; give 2 or 3 raps on the hive with your fingers. The hearing of the hollow sound warns them of a home, and then the race commences. Now detach a portion more, and by the time these get fairly started, give the basket a sudden shake, putting them all on the canvass in front of the hive.

For 15 years I have captured my swarms in this way, and in that length of time I have never failed to take the swarm on my basket and carry it wherever I wished to. In catching swarms, during 15 years, I have never used a ladder, shears, saw, quart dipper, fountain pump, or large tin pail. It is all right to have tools, but with my way of hiving bees I have no need of them. I think it would take six men and two women to carry them after me, and then not always be in the right place when wanted. In my own yard I have not cut a branch for bees in 15 years, so you see I do not despoil either fruit or shade trees.

Mr. R. Graden, on page 821 of the Bee Journal for 1884, describes his plan of catching swarms similar to mine, but not so convenient or handy, in my opinion. I would say to all—view the different points of convenience laid down in the different articles set forth in the Bee Journal, and then decide which is the lightest, easiest, quickest and safest for fruit trees, of the different plans set forth. If I have in this put an idea into any one's mind that will save labor in the business, I have gained my point.

Manhattan, Kans.

For the American Bee Journal.

My Bee-Keeping Experience.

S. H. HARRISON.

I believe I promised a report of my successes and failures during the past year, in a former letter, but failures have been so frequent, and successes so few, I have delayed, hoping for something better.

In the spring of 1884, I took my 10 colonies from the cellar and placed them on the summer stands, all in excellent condition, strong in bees and stores. May 31 the first swarm issued (I let them swarm naturally, divide the brood and save queen-cells), and swarm after swarm followed until July 20, I had 30 colonies. The divided colonies being built up from the brood, etc., of the later swarms. I then started for Minneapolis, Minn., to attend the National re-union of ex-soldiers, expecting my bees to gather in a good supply of honey during my absence; but about July 28, I received a letter from my wife, telling me that on the 25th a terrible wind and hail storm had visited our locality. The hail broke 22 window lights from the north side of our dwelling, and some six days after the children gathered hail from where it had piled up, for the purpose of making ice cream, You see it made things lively.

But the poor bees, where were they? Myriads of them were in the fields, and the storm coming suddenly and severe, hardly a bee outside the hives was spared. The workers nearly all perished, and with them every shrub and flower from which honey could have been gathered, and as there was no honey to gather, it was better for those left in the hives, for all they could do was to consume stores previously gathered. From that time bees did not gather enough stores to live on, and as winter approached, I fed them sugar syrup; but I did not do that as I ought; I fed them outside, and those which needed the most, got the least.

On Nov. 29 I placed them all in the cellar, some in fair condition, others in poor. There was very little breeding in any of the colonies after the storm, hence bees were old and comparatively few in numbers. As winter advanced, it became necessary to feed some. Soon, one died, than another, and when spring opened, I had 19 weak colonies to place on the summer stands. I moved them about one mile from their former stand. I immediately commenced feeding them to stimulate breeding, using rye flour and sugar syrup. They soon gave indications of rapid improvement, and seemed to be doing so well that I began to look for drones, but while I was watching their improvement, etc., with such eagerness and satisfaction, on the morning of May 6 I went out and found water frozen, and ice nearly ½ inch thick. On the morning of the 7th ice a little thicker, and on the 8th about as on the 6th.

Early spring flowers and fruit was just coming into bloom. Wild plums, choke-cherries, etc., were in full bloom, and apples, peaches, pears, plums, cherries, etc., were just beginning to bloom. The hard frost killed almost every bud and flower, and my poor bees had nothing to do but to wait for bloom, and consume the stores on hand. But in a few days after that frost, the young drones looked for so anxiously, began to emerge, but as soon as one crowded out of his cell, he was invited outside, and not permitted to return, and many colonies killed the drone larvæ and dragged it all out, so that in less than a week not a drone could be seen. Of course I must feed again, and I continued to feed until in June, before there was enough forage for them to live upon.

In the mean time 2 more colonies died, leaving 17. During the latter part of June and the month of July, they barely gathered enough stores to live upon and keep up brood-rearing. About Aug. 1, drones again appeared, and on the 6th the first swarm of the season came out, and on the 7th another, and I am to-day watching and waiting for others. With the exception of 2 colonies, one queenless and the other might as well be, all are now in excellent condition, and are working in surplus boxes nicely, getting honey mostly from buckwheat, sown expressly for them.

THE SHEEP-BEES CONTROVERSY.

Before I close I wish to say a few words about that famous lawsuit, sheep vs. bees. In the first place, the idea seems ridiculous, as has been many times illustrated in the columns of the BEE JOURNAL. But what I most want to do now is, to give a few facts coming under my personal observation within the last 48 hours. Early in the spring I sowed a piece of buckwheat for my bees. It had just begun to come up nicely when the frost on May 6, 7 and 8 came on and killed all that was up. That coming up after, left it very thin on the ground, but enough I thought to justify leaving it for awhile at least. It came on, bloomed nicely, and the other day I examined and found considerable matured wheat, and desiring to get rid of the weeds, I decided to plow it under. Although it was full of bloom and bees, on the 6th I started the boy with the team and harrow and gave it a good harrowing, and at a time when the bees were on it the thickest. After a time he came in and said: "Why, the bees are just as thick as they can be on that buckwheat." I asked him if they stung him or the horses. He replied, "no."

Now, Mr. Editor, every man that knows anything about bees, knows that if there is anything in the world that bees will attack, it is a sweating horse. Yet my horses harrowed and plowed that piece of buckwheat with bees on it very thick, without one offering to sting the horse or the boy. The National Bee-Keepers' Union meets with my hearty approval, and I herewith send in my membership fee and first assessment.

Mankato,♂ Kans., Aug. 8, 1885.

Convention Notices.

☞ The Southern Wisconsin Bee-Keepers' Association will meet at the Court House in Janesville, Tuesday, Aug. 25, 1885, at 10 a. m.
JOHN C. LYNCH, *Sec.*

☞ The Des Moines County, Iowa, Bee-Keepers' Association, will hold its fall meeting at the Court House in Burlington, on Aug. 25, 1885, at 10 a. m. All persons interested in bee-culture are invited to attend.
JOHN NAU, *Sec.*

☞ The Linwood Bee-Keepers' Association will be held at Rock Elm Centre, Wis., on Tuesday, Sept. 1st, at 1 o'clock p. m., in Condit's Hall. All interested are cordially invited to attend, and make the meeting a profitable one.
B. J. THOMPSON, *Sec.*

☞ The Western N. Y. and Northern Pa. Bee-Keepers' Association will meet at Salamanca, N. Y., in Odd Fellows' Hall, on Sept. 1 and 2, 1885.
A. D. JACOBS, *Sec.*

☞ The next meeting of the Northwestern Illinois and Southwestern Wisconsin Bee-Keepers' Association will be held at Rock City, Ills., on Aug. 25, 1885.
J. STEWART, *Sec.*

☞ Owing to a very heavy rain-storm during the forenoon of July 18, the meeting of the Marshall County Bee-Keepers' Association was deferred until Saturday, Aug. 29, 1885, at 10.30 a. m., in the Court House at Marshalltown, Iowa. Subjects: "Fall Management of Bees" and "Care and Sale of Honey." All bee-keepers are invited. It will be a time of rest from other labor, and we hope to have a good meeting.
J. W. SANDERS, *Sec.*

SELECTIONS FROM OUR LETTER BOX

Wonderful Season for Bees.—Miss Anna Saunders, Woodville,♀ Miss., on Aug. 5, 1885, writes:

This has been a wonderful season for honey. Up to July 15, there has been no cessation in honey-gathering and brood-rearing. From May 29 to July 30 I extracted seven times, and the combs were filled in 3 or 4 days after, each time.

Bees Not Harmful.—A. E. Manum, Bristol,+o Vt., on Aug. 8, 1885, writes:

Some time since I noticed in the BEE JOURNAL a proposition from Mr. James Heddon for the formation of a Bee-Keepers' Union, and I was at once favorably impressed with the idea. The move is a grand one, and should be supported by every bee-keeper in the United States, whether he has one or more colonies. I am well pleased with the officers elected, and I hope that not a leaf will be left unturned that will assist in showing to the world that bees are not as harmful as many suppose.

[Mr. Manum sent two other membership fees with his own. Let others emulate his wise example.—ED.]

Syrian or Holy-Land Bees.—F. J. Ahlers, Cincinnati,♀ Ohio, makes the following request:

Will some competent person please give a minute description of the physical characteristics of the Syrian or Holy Land bees, and their crosses with the Italians and blacks. Also their action on the combs when removed from the hive, and also when opening the hive. By physical characteristics I mean the markings of the queens, drones and workers, in clear, specific language, not in generalizations, as like Italians only ——. I have purchased reputed pure queens cross-mated with Italian drones. One of the queens I am sure is impure and cross-mated with at least an Italian-black hybrid drone.

Button-Ball, etc.—S. McLees, May, +o Mich., on Aug. 5, 1885, writes:

I send a stem and flower (the only one I ever saw of the kind). It grows on low land about 3 feet high, and blossoms about Aug. 1. The flowers last nearly 3 weeks, and it is litterly covered with bees, flies and wasps; the humble-bees in scores remain on it over night. At a distance it resembles a bank of snow; upon going to it, at the first sight and sound, one would think he had found a swarm of bees. Please name it. Is it a good honey plant? I also enclose a piece of mineral. What is it? I also send a piece taken from a rock, that I take for some kind of mineral. Please name it.

[This is button-ball (Cephalanthus occidentalis), and an excellent honey-plant; although it is in bloom at the same time as the linden, it keeps in bloom much longer. Another thing in its favor is the fact of its growing in bogs and fens, and so yields nectar abundantly even in times of severe drouth. It is figured in my Manual on page 283. The mineral is sulphite of iron or iron pyrites, sometimes called appropriately, "fool's gold."—A. J. COOK.]

Boiled Honey for Winter Stores.—Wm. Lossing, Hokah,∽ Minn., on Aug. 8, 1885, writes:

I wish to know if any bee-keepers have ever boiled fall honey and then fed it for winter stores; if so, with what results. I put into winter quarters 302 colonies and nuclei, and succeeded in losing nearly all of them. May 10 found me with only 67 old queens left, most of them with only two frames of bees and brood. I bought 14, and I now have about 200 good ones and 72 small ones on 3 to 5 frames. I will try to put 250 in this fall. They have gathered about 1,000 pounds of fine white clover and basswood honey.

Sugestions. — Elias Fox, Hillsborough,+o Wis., makes the following suggestions:

1. I do not like to dictate in regard to the organization of the Bee-Keepers' National Union, but it seems to me it would be proper to make the assessments in proportion to the number of colonies owned, or the amount of capital invested by each member, and NOT so much per capita.

2. It also seems to me that the General Manager should pay at least 7 per cent. interest on all moneys held by him, and have it credited to each member proportionately. This is merely my suggestions. I should also like to hear from others in regard to this matter.

[The question is, have we a RIGHT to keep bees—not whether we should invest $10 or $100 in the business. It attacks the INDIVIDUAL rights of bee-keepers—hence individual bee-men should unite in the DEFENSE of their pursuit!

2. As to the General Manager being required to pay interest for the money, it seems that our correspondent fails to comprehend the nature of the case. The Assessments are not called for until the money is needed—and the money is subject to call, at a day's notice, to pay the expenses of such defense. It cannot be invested to earn interest, for it can ONLY be used for the purpose for which the fund is created. All the money received by the Manager is in the Bank, and can be checked out at a moment's notice. As the Bank pays no interest on such deposits, would it be REASONABLE to require the Manager to pay interest for funds he cannot use?

The annual fees of 25 cents for each member, creates a "general fund" to cover current expenses. (See Article VIII of printing, postage, etc.) If "interest" is to be expected in addition to "brains," time and manual labor, we fancy the office will "go-a-begging" for some one to take it. Business men do not usually throw away their time, energies and money in that manner.

Gad-Flies and Sheep.—A. S. Goodrich, Worthington,☉ Ohio, on Aug. 6, 1885, writes:

I enclose the fees for the Bee-Keepers' Union. I gave the subject at first very little attention, believing there was nothing to defend, but I have reconsidered the matter, and send in my mite. I have kept bees and sheep on the same farm for more than half a century, and my sheep have always driven the bees, not the bees the sheep. Every man of any observation knows that while bees are foraging they flee from the approach of man or beast, and never make an attack away from home. It is very evident that the plaintiff in the Freeborn case is not much more of a sheep-man than he is of a bee-man, and cannot distinguish between a honey-bee and a gad-fly; the latter are very annoying to sheep. I do not believe there is an intelligent judge or jury in the United States that will render a verdict against Mr. Freeborn! I have had no surplus honey. Bees are consuming what stores they have, and will soon have to be fed or starve.

Good Honey Crop.—Wm. Anderson, Sherman,⟜ Mo., on Aug. 10, 1885, writes:

I have extracted 500 pounds of honey from 8 colonies. My bees are not all in movable frame hives. They have done well, and will have plenty of honey to go through the winter with. Even the third swarm that came out from the same hive, has stored nearly enough for winter. As we are having plenty of rain now, they will get plenty I think. I shall have no cause to do any fall feeding, as buckwheat is in full bloom now. My honey yield will be exceedingly good this year. I am very sorry to see that so few of the bee-keepers have joined the Union. "He that will not invest a penny will never have many." Secure yourselves and save dollars.

Insurance.—A. W. Osburn, Cuba, W. I., on July 25, 1885, writes:

I fully agree with you, Mr. Editor, when you say, "This is a wide field," in your comments upon the letter of Chas. Follett, of Osage, Iowa, where he proposes to attach to the National Bee-Beepers' Union an "Insurance Mutual Bee-Keepers' Association." I have no doubt that some sort of a bee-keepers' insurance company may be found advisable or necessary at some future time, but at this time I think it premature. The bee-keepers are not educated up to the necessity of such an organization.

Poor Honey Season.—H. T. Hartman, Freeport,⊸ Ills., on Aug. 8, 1885, writes:

We are having the poorest honey season this year that I have known since I commenced bee-keeping. White clover was nearly all winter-killed; this was also an off year for basswood. I had 70 strong colonies in the spring, which were all fixed for comb honey, but there is hardly anything done in the section, only 4 have swarmed. Last year I had over 3,000 pounds of comb honey in the honey room; there is not 100 pounds in there this year. If I get through with a barrel of sugar this fall, in feeding my bees for winter, I will call it well, yet I hope to make it all up another year.

Strange Notions of Bees.—L. J. Keyes, Nora Springs,⛢ Iowa, on Aug. 10, 1885, writes:

I neighbor came to my apiary a few days since for a hive and instructions for securing a colony of bees that had commenced building comb and storing honey under the eaves of his house. The colony was a good sized one, with about 10 pounds of honey stored, and brood in abundance. They were out-of-doors in reality, only being protected from the rain by the projection of the cornice. To smoke them away from the comb, fasten it into the frames of the hive and put the bees in, was an easy task; they are now at work, and apparently well pleased with the change in quarters. I have lost a very valuable queen by trying Mr. Simmins' plan of introducing, on page 472. I may try it again sometime, but with a queen of less value. The honey-flow from white clover and basswood has been abundant this season. Some of my colonies stored 28 pounds each in the supers in eight days besides making new combs. A neighbor of mine (¼ of a mile distant) hived two swarms in one box, that had clustered together, where they remained at work for five days, when a part of them swarmed out again, and were hived in another box. Upon examination each had a queen, and had worked together five days without either being destroyed. Can any of the readers of the Bee Journal account for this strange freak?

Bichloride of Mercury.—J. M. Shuck, Des Moines,⊙ Iowa, on Aug. 11, 1885, writes us as follows concerning this as a remedy for the cure of foul brood:

Dr. Agnew, of Haverford College, Pa., (a surgeon of national celebrity), writes me that bichloride of mercury is one of the very best germicidal agents, and has been in use some time. The strength generally employed is one part of the salt to one and two thousand parts of water. He further says there is no such preparation as bichromate of mercury. Mr. Arthur Todd, of Germantown, is also helping me run this thing down, and he will write Mr. Cheshire about it. I hope to get at something tangible before long.

[The remedy named is one of the new mercurial preparations, and is said to have been used in Europe for the cure of foul brood. We are glad Mr. Shuck is endeavoring to get the facts concerning this matter.—Ed.]

The National Bee-Keepers' Union.

CONSTITUTION.

Article I.—This organization shall be known as the "National Bee-Keepers' Union," and shall meet annually, or as often as necessity may require.

Article II.—Its object shall be to protect the interests of bee-keepers, and to defend their rights.

Article III.—The officers of this Union shall consist of a President, five Vice-Presidents, and a General Manager (who shall also be the Secretary and Treasurer), whose duties shall be those usually performed by such officers. They shall be elected by ballot, and hold their several offices for one year or until their successors are elected and installed; blank ballots for this purpose to be mailed to every member by the General Manager.

Article IV.—The officers shall constitute an Advisory Board, which shall determine what action shall be taken by this Union, upon the application of any bee-keepers for defense, and cause such extra assessments to be made upon all the members as may become necessary for their defense.

Article V.—Any person may become a member by paying to the General Manager an Entrance Fee of ONE DOLLAR to the Defense Fund, and an annual fee of 25 cents, for which he shall receive a printed receipt making him a member of this Union, entitled to all its rights and benefits. The annual fee shall be due on the first day of July in each year, and MUST be paid within 30 days in order to retain membership in this Union.

Article VI.—Donations of any amount may be made at any time to the Defense Fund, in addition to the entrance and membership fees and the regular assessments made upon the members by the Advisory Board.

Article VII.—The Defense Fund shall be used for no other purpose than to defend and protect bee-keepers in their rights, after such cases are approved by the Advisory Board, and shall only be subjected to Drafts regularly made in writing by the Advisory Board.

Article VIII.—The annual fees paid by the members shall become a general fund, from which shall be paid the legitimate expenses of this Union, such as printing, postage, clerk-hire, etc.

Article IX.—Meetings of this Union shall be held at such times and places as shall be designated by the Advisory Board, or upon the written requisition of ten members.

Article X.—This constitution may be amended by a majority vote of all the members at any time.

LIST OF MEMBERS AT THIS DATE:

Addenbrooke, W.,
Allen, Ransom,
Anderson, J. Lee,
Anderson, Wm.,
Angell, C. S.,
Baldwin, B. T.,
Barnes, Wm. M.,
Baxter, E. J.,
Bernschein, Ernst,
Besse, H., M. D.,
Bitzer, Wm.,
Bohn, Gustav,
Bray, Moses,
Brickey, Peter,
Buchanan, J. W. & Bro,
Burrell, H. D.,
Burton, L.,
Carder, A.,
Chapman, J.,
Cheney, H. H.,
Clarke, Rev. W. F.,
Coonley, John T.,
Cook, Prof. A. J.,
Cripe, Henry,
Dadant, Chas.,
Dadant, C. P.,
Darby, M. E.,
Dayton, C. W.,
Decker, A. A.,
Demaree, G. W.,
Dibbern, C. H. & Son,
Dickason, T. B.,
Dittmer, Gus,
Dodge, U. E.,
Doolittle, G. M.,
Downs, Robert,
Drane, E.,
Dunham, P.,
Dunn, John,
Eaglesfield, E. C.,
Eastwood, L.,
Elwood, Sr., W. R.,
Feathers, Harvey,
Flanagan, E. T.,
England, P. J.,
Follett, Charles,
Forbes, W. E.,
France, E. & Son,
Freeborn, S. I.,
Fulton, W. K.,
Funk, H. W.,
Furness, Dwight,
Gander, A. M.,
Goodrich, A. S.,
Green, Charles H.,
Greening, C. F.,
Gresh, Abel,
Grimm, Christopher,
Harlens, J. G.,
Harrison, S. H.,
Haskin, A. S., M. D.,
Hatch, C. A.,
Havens, Reuben,
Hayhurst, E. M.,
Heaton, J. N.,
Heddon, James,
Hensley, J. P.,
Hettel, M.,
Hill, A. G.,
Hilis, Mrs. H.,
Hilton, George E.,
Hoke, Abe,
Hollingsworth, C. M.,
Howard, J. B.,
Hoyle, George H.,
Huse, Wm. H.,
Hutchinson, W. Z.,
Hyne, James M.,
Isham, H. B.,
Jones, George W.,
King, D. N.,
King, T. Frank,
Langstroth, Rev. L. L.,
Lanning, John,
Lawton, B. W.
Le Roy, J. W.,
Lindsly, L.
Ludkey, Charles,
Ludloff, K.,
Maddox, W. T.,
Mahory, S. H.,
Manum, A. E.,
Marden, Henry,
Margrave, J. W.,
Mason, Jas. B.,
Mattoon, Jas.,
McConnell, James,
McCormick, Emery,
McGee, Charles,
McLees, S.,
McNay, Frank,
McNeill, James,
Millard, D.,
Miller, H. J. & Co.,
Miller, Dr. C. C.,
Miller, Henry,
Mills, L. D.,
Minnich, F.,
Minor, N. L.,
Morse, William,
Muth-Rasmussen, Wm.,
Nelson, James A.,
Newman, Alfred H.,
Newman, S. M.,
Newman, Thomas G.
Nipe, James,
Nutt, W. C.,
Parker, D. G.,
Pennoyer, L. A.,
Peters, Geo. B.,
Phelps, N. T.,
Pond, Jr., J. E.,
Powell, E. W.,
Pray, G. L.,
Rainey, Jarvis,
Reed, L.,
Rey, John,
Reynolds, M. G.,
Roberts, Jesse H.,
Root, A. I.,
Rowe, David,
Roye, Burr,
Schaper, E. F.,
Scheuring, Paul,
Seabright, L. C.,
Secor, Eugene,
Shapley, D. L.,
Shearman, J. O.,
Shirley, W. H.,
Smith, George,
Snell, F. A.,
Spady, Jno.,
Spencer, M. L.,
Stearns, J. R.,
Stephenson, H. W.,
Stephens, W. B.,
Stewart, W. H.,
Stocker, Wm. S.
Stolley, Wm.,
Storer, E. M.,
Talbert, M.,
Taylor, George,
Thatcher, Will.,
Theilmann, C.,
Thompson, Geo. M.,
Tinker, Dr. G. L.,
Tongue, L. N.,
Travis, F. W.,
Travis, I. A.,
Trimberger, John,
Turner, T. E.,
Tyner, Alonzo,
Vanhouten, C. W.,
Vialion, P. L.,
Walton, Col. R.,
Webster, H. S.,
Weeks, C.,
Wendt, Henry,
Whitney, W. V.,
Wicherts, A.,
Wilkins, Miss Lucy A.,
Wolcott, Wm. C.,
Wright, W. D.,
Zwiener, H. L.

WEEKLY EDITION
OF THE
AMERICAN
ESTABLISHED IN 1861
OLDEST BEE PAPER IN AMERICA
BEE JOURNAL
PUBLISHED BY
THOMAS G. NEWMAN & SON,
PROPRIETORS,
923 & 925 WEST MADISON ST., CHICAGO, ILL.
Weekly, $2 a year; Monthly, 50 cents.

ALFRED H. NEWMAN,
BUSINESS MANAGER.

Special Notices.

Make all Money Orders and Postal Notes payable at Chicago, Ills.—Some country postmasters insist on making such payable at some sub-station of Chicago, but we want them drawn on the *main office*.

◆

☞ If your wrapper-label reads Aug. 85, please remember that your subscription runs out with this month. Renew at once, so as not to lose any numbers.

◆

To Correspondents.—It would save us much trouble, if all would be particular to give their P. O. address and name, when writing to this office. We have several letters (some inclosing money) that have no name; many others having no Post-Office, County or State. Also, if you live near one post-office and get your mail at another, be sure to give the address we have on our list.

◆

☞ For two subscribers for the Weekly BEE JOURNAL (or 8 for the Monthly) for one year, we will present a Pocket Dictionary, and send it by mail, postpaid.

◆

☞ **Sample Copies** of the BEE JOURNAL will be sent FREE upon application. Any one intending to get up a club can have sample copies sent to the persons they desire to interview by sending the names to this office, or we will send them all to the agent.

◆

☞ We want one number each of the BEE JOURNAL of August, 1866—February, 1867. Any one having them to spare will please send a Postal Card. We will pay 50 cents for one copy of each of the two numbers.

◆

☞ **Preserve your papers** for reference If you have not got a Binder we will mail you one for 75 cents, or you can have one FREE if you will send us 3 new yearly subscriptions for the BEE JOURNAL.

◆

☞ Our rates for two or more copies of the book, "Bees and Honey," may be found on the Book List on the second page of this paper. Also wholesale rates on all books where they are purchased "to sell again."

Honey and Beeswax Market.

Office of the AMERICAN BEE JOURNAL,
Monday, 10 a. m., Aug. 17, 1885.

The following are the latest quotations for honey and beeswax received up to this hour:

CHICAGO.

HONEY—Receipts of comb honey are coming more freely, and the demand is about equal to it. Yet 15c per pound is all that can be obtained. Extracted honey ranges from 5@8c for the different grades and styles of packages.

BEESWAX—22@23c.

R. A. BURNETT, 161 South Water St.

BOSTON.

HONEY.—We quote the following prices: Fancy white comb in 1-lb. sections, 16@18c.; the same in 2-lb. sections, 14@15c; fancy white California 2-lbs., 12@14c. Extracted weak, 6@8c. Sales very slow.

BEESWAX.—30 cts. per lb.

BLAKE & RIPLEY, 57 Chatham Street.

NEW YORK.

HONEY—The honey market is very quiet, and will continue so until fall trade opens up. Some old stock is on the market yet, with small shipments of new comb honey arriving. Southern extracted honey is coming in very freely. Quotations are as follows for comb honey: Fancy white in 1-lb. sections, 14@15c; fair to good in 1-lb. sections, 12@13c; fancy white in 2-lb. sections, 13@14; fair to good in 2-lb. sections, 11@12c; fancy buckwheat in 1-lb. sections, 9@10c; fancy buckwheat in 2-lb. sections, 7@8c. Extracted white clover, 6@7; buckwheat, 5@6c; Southern, per gallon, 55@65c.

BEESWAX—Prime yellow, 25@28c.

MCCAUL & HILDRETH BROS., 34 Hudson St.

CINCINNATI.

HONEY—The market is quiet with fair demand for extracted, and an abundance of offerings from commission houses and producers. Prices range between 4@8c on arrival. There is but little new comb honey in the market, with an occasional demand. Prices nominal.

BEESWAX—Is in fair demand with liberal offerings, and brings 20@24c on arrival.

C. F. MUTH, Freeman & Central Ave.

SAN FRANCISCO.

HONEY.—New comb honey sells slowly because of last year's crop now on hand. We now quote—Extracted, old dark 4½c.; new white, 5½@6 c.; dark, 4¾@5c. No extra white coming forward.

BEESWAX—Quotable at 23c.—wholesale.

O. B. SMITH & CO., 423 Front Street.

CLEVELAND.

HONEY—Is very dull just now during strawberry time, and although we hold at 14@15c per lb. best white 1-lb. sections, it is merely nominal, as there are no transactions. As soon as our people have satisfied their craving for acid fruits, they take very kindly to nice white honey, and we may look with confidence to a good demand in July, August and September.

BEESWAX.—Scarce at 28@30.

A. C. KENDEL, 115 Ontario Street.

KANSAS CITY.

HONEY—Trade in this article is very quiet just now. Nothing sells at this time of year except extracted honey, in bulk and small glasses and tins of honey. Some large sales of extracted this week at 5@6c for southern, and 6@7c for clover and sage. Comb honey nominal, at 12@13c for choice white 2-lb. sections, and 13@14c for 1-lb.

BEESWAX—Weak at 20@25c.

CLEMONS, CLOON & CO., cor. 4th & Walnut.

◆

☞ To create Honey Markets in every village, town and city, wide-awake honey producers should get the Leaflets "Why Eat Honey" (only 50 cents per 100), or else the pamphlets on "Honey as Food and Medicine," and scatter them plentifully, and the result will be a DEMAND for all of their crops at remunerative prices. "Honey as Food and Medicine" are sold at the following prices:

Single copy, 5 cts.; per doz., 40 cts.; per hundred, $2.50. Five hundred will be sent postpaid for $10.00; or 1,000 for $15,00. On orders of 100 or more, we will print, if desired, on the cover-page, "Presented by," etc. (giving the name and address of the bee-keeper who scatters them).

Local Convention Directory.

1885. *Time and place of Meeting.*
Aug. 25.—Southern Wisconsin, at Janesville, Wis.
John C. Lynch, Sec.

Aug. 25.—Des Moines Co. Iowa, at Burlington, Ioa.
John Nau, Sec.

Aug. 25.—N. W. Ill. and S. W. Wis. at Rock City, Ill.
J. Stewart, Sec., Rock City, Ills.

Sept. 1.—Linwood, at Rock Elm Centre, Wis.
B. J. Thompson, Sec., Waverly, Wis.

Sept. 1, 2—W. N. Y. and N. Pa., at Salamanca, N.Y.
A. D. Jacobs, Sec., Jamestown, N. Y.

Sept. 3.—Eastern Indiana, at Richmond.
M. G. Reynolds, Sec.

Dec. 8—10.—Michigan State, at Detroit, Mich.
H. D. Cutting, Sec., Clinton, Mich.

☞ In order to have this table complete, Secretaries are requested to forward full particulars of time and place of future meetings.—ED.

◆

To give away a copy of "Honey as Food and Medicine" to every one who buys a package of honey, will sell almost any quantity of it.

Advertisements.

100 Hives and Supers
FOR SALE CHEAP.

The Frames are filled with combs — all are complete and in good order, having been in use only one year. Make me an offer. Also **160 pounds** of Dadant's Brood **COMB FOUNDATION**, in original packages.
GEO. B. ENGLE, Jr.,
cor. Clinton & Quincy Sts., **Chicago, Ills.**

Fruit-Farm & Apiary
FOR SALE CHEAP!

96 ACRES, hill-land, ⅓ well-stocked with apples, peaches, pears, plums, quinces, grapes, and small fruit, in fine bearing condition. The remainder in pasture, grass, grain, etc. Apiary contains **140 ITALIAN COLONIES** in Langstroth hives. Bee-house and all modern appliances for apiculture, in as good location for bees and honey as can be found. Good 10-room house, beautifully located, commanding a view of the city, river and surrounding country. New barn and out-buildings, cistern, never-failing springs, etc. Reason for selling—age and ill-health.
33A6t **S. A. STILLMAN, LOUISIANA, MO.**

"PRIZE QUEENS!"

ITALIAN QUEENS, tested, warranted, and fertilized, for sale at usual prices. Also Nuclei colonies, 2 frames each. Send for Circular. Dollar Queens ready to ship on one week's notice.
27D6t **E. L. BRIGGS**, Wilton Junction, Iowa.

THE HORSE,
By B. J. KENDALL, M. D.

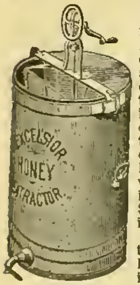
A TREATISE giving an index of diseases, and the symptoms; cause and treatment of each, a table giving all the principal drugs used for the horse, with the ordinary dose, effects and antidote when a poison; a table with an engraving of the horse's teeth at different ages, with rules for telling the age of the horse; a valuable collection of recipes, and much valuable information.
Price 25 cents—In English or German.
THOS. G. NEWMAN & SON,
923 & 925 West Madison St., CHICAGO, ILL.

30 COLONIES of BEES

for one-hundred dollars, in American hives; or **$3.50** each, singly. They are strong in bees and honey. Syrians and Italians. Safe arrival guaranteed.
33A4t **FAYETTE LEE, Cokato, Minn.**

My 17th Annual Price-List of Italian, Cyprian and Holy-Land Bees Queens and Nuclei colonies (a specialty): also Supplies—will be sent to all who send their names and addresses. **H. H. BROWN,**
17Dtf Light Street, Columbia County

EXCELSIOR HONEY EXTRACTORS



In answer to frequent inquiries for Extractors carrying 3 and 4 Langstroth frames, we have concluded to adopt these two new sizes. The 3 frame basket is in a can of the same size and style as the 2 frame. The 4 frame basket is in the larger can, with the cone or metal standard for the basket to revolve upon, leaving room underneath the basket for 75 or 80 lbs. of honey. It will be complete, with covers, and in every way identical, except in size, with the $16.00 Extractor, 13x20, which is intended for any size of frame.

Excepting with the $8.00 Extractors, all the different styles have strainers over the canal leading to the honey gate, and movable sides in the Comb Baskets. The $8.00 and $10.00 Extractors have no covers.

For 2 American frames,	13x13	inches	$8 00
For 2 Langstroth "	10x18	"	8 00
For 3 " "	10x18	"	10 00
For 4 " "	10x18	"	14 00
For 2 frames of any size,	13x20	"	12 00
For 3 " "	13x20	"	12 00
For 4 " "	13x20	"	16 00

THOS. G. NEWMAN & SON,
923 & 925 West Madison Street, CHICAGO, ILL.

Bees and Queens

HAVING purchased all the black bees within a radius of 6 miles, I now claim the LARGEST ITALIAN APIARY and best location for rearing **FINE QUEENS** in the State. I will continue to sell warranted Queens at the low price of **75** cents each. Extra selected tested (1885 rearing) **$1.50** each. Three L-frame Nuclei, every frame filled with brood, with selected tested Queen, **$3** each.

Address JAS. WOOD, North Prescott, Mass.
29A9t

WIN more money than at anything else by taking an agency for the best selling book out. Beginners succeed grandly. None fail. Terms free. HALLETT BOOK CO.
51A1y Portland, Maine.

Wooden Pails for Honey!

WE can furnish regular Wooden Water-Pails—well painted on the outside, and with 3 iron hoops and a tight-fitting wood cover, at **$2.25** per dozen. They will hold **25** lbs. of honey, and when empty, can be utilized for use as an ordinary household pail.

THOS. G. NEWMAN & SON,
923 & 925 West Madison Street, CHICAGO, ILL.

R. HYDE, Alderly, Dodge Co., Wis.,

will send you full colonies of **ITALIAN BEES** in 8-frame Langstroth hives for $3.00 each. Satisfaction guaranteed. Order early. 31A2t

Sweet Clover

— FOR —

BEE PASTURAGE.

IT MAY be sown on all waste places at any time, and will grow on any soil—in any climate. Price, 20 cents per pound; $2.75 per peck; $10.00 per bushel (60 lbs.)

THOS. G. NEWMAN & SON,
923 & 925 West Madison St., CHICAGO, ILL.

Dadant's Foundation Factory, wholesale and retail. See Advertisement in another column

Bee-Keepers' Badges at Fairs.

We have some ELEGANT RIBBON BADGES, having a rosette and gold Bee, for bee-keepers' use at Fairs, Conventions, etc. Price 50 cents each, by mail, postpaid.

Address, **THOMAS G. NEWMAN,**
925 West Madison St., CHICAGO, ILL.

QUEENS by Return Mail!

AT THE FOLLOWING LOW RATES:

Bred from my **Best Strains of Italians** and **Albinos!**

Untested Queens		each	$ 1 00
" "		½ doz.	5 50
" "		1 "	10 00
Warranted "		each	1 10
" "		½ doz.	6 00
" "		1 "	11 00
Tested "		each	2 00
Selected Tested Queens		"	2 50

Descriptive Price-List free. Address all orders to

WM. W. CARY, - Coleraine, Mass.,
(Successors to Wm. W. Cary & Son.)

N. B.—On a single order for 50 Queens, we will give **10 per cent. discount** from the above list. 29Atf

Dadant's Foundation Factory, wholesale and retail. See Advertisement in another column.

LOS ANGELES.

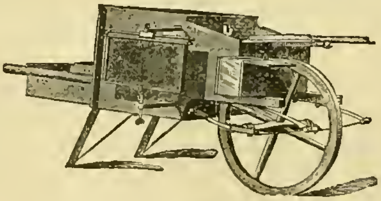
HOMES IN SOUTHERN CALIFORNIA.

"Stern winter smiles on that auspicious clime,
The fields are florid with unfading prime;
From the bleak pole no winds inclement blow,
Mould the round hail or flake the fleecy snow;
But from the breezy deep the bless'd inhale,
The fragrant murmurs of the western gale."
—Homer.

FULL information concerning the garden spot of the world, beautiful LOS ANGELES, THE LIVELIEST AND MOST PROSPEROUS SECTION OF THE PACIFIC COAST, furnished by the Los Angeles **Weekly Mirror** a mammoth **72** column PAPER, the best weekly in California. SEND FOR IT. Single copy, three two-cent stamps; six months, **$1**; one year, **$2.**

Address THE TIMES-MIRROR CO.,
25A13t Los Angeles, Calif.

SYSTEMATIC AND CONVENIENT.



DAVIS' PATENT HONEY CARRIAGE,
REVOLVING COMB-HANGER,
Tool Box and Recording Desk Combined.

Price, complete, only............ $18.00.

THOS. G. NEWMAN & SON,
923 & 925 West Madison St., CHICAGO, ILL.

Dadant's Foundation Factory, wholesale and retail. See Advertisement in another column.

100 COLONIES OF BEES for SALE at **$5.00** each, in Baldwin Hives (frames 10x13 in.) They are nice Italians. Also a few hybrids for sale. JONATHAN GEORGE, Independence, Mo.
32A2t

BROWN GERMANS.—A limited number of fine Queens of this race for sale at 35 cts. each.
32A2t **W. G. FISH, ITHACA, N. Y.**

THE BRITISH BEE JOURNAL

AND BEE-KEEPER'S ADVISER.

The BRITISH BEE JOURNAL is published SEMI-MONTHLY, at Seven Shillings per annum, and contains the best practical information for the time being, showing what to do, and when and how to do it.

The British Bee Journal and our Weekly for $3.50; with our Monthly, $2.00 a year.

BEES and HONEY,

OR THE

Management of an Apiary for Pleasure and Profit; by

THOMAS G. NEWMAN.

Editor of the Weekly Bee Journal.

It contains 220 profusely illustrated pages is "fully up with the times" in all the improvements and inventions in this rapidly developing pursuit, and presents the apiarist with everything that can aid in the successful management of the honey-bee, and at the same time produce the most honey in its best and most attractive condition.

PRICE—Bound in cloth, $1.00; in paper covers, 75 cents, postpaid.

☞ **A Liberal Discount to Dealers, by the Dozen or Hundred.**

☞ The Monthly BEE JOURNAL for a year and the bound book, "Bees and Honey," will be sent for $1.25.

THOS. G. NEWMAN & SON,
923 & 925 West Madison St., CHICAGO, ILL.

Queens by Return Mail!

ANYBODY

can introduce a Queen successfully by our **NEW INTRODUCING CAGE.** A Cage with full directions for using sent to each purchaser of a Queen. During the balance of the season, we will have only Syrians and fine Italian Queens for sale.

PRICES:

WARRANTED,	SELECT,	TESTED,
$1.00.	$1.25.	$1.50.

Tested Queen and third edition of Bee-Keepers' Handy Book, $2.00. This offer holds good only till Oct. 1st, 1885. Handy Book without Queen, $1.50.

32Atf **HENRY ALLEY, Wenham, Mass.**

POULTRY AND BEES

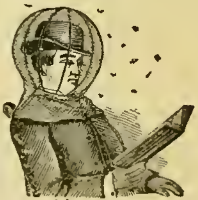
TWO PAPERS for the PRICE of ONE.

THE POULTRY JOURNAL is a beautifully printed and illustrated 32-page Monthly, devoted to the breeding and management of Poultry, Pigeons, Rabbets and Dogs, at $1.25 a year. C. J. WARD, editor and proprietor.

We will send the "Poultry Journal" and the "Monthly Bee Journal" for one year, both for **ONE DOLLAR.**

THOS. G. NEWMAN & SON,
923 & 925 West Madison St., CHICAGO, ILL.

A NEW BEE-VEIL.



There are five cross bars united by a rivet through their center at the top. These bars are buttoned on to studs on the neck-band. The bars are of best light spring steel; the neck-band of best hard spring brass; the cover is of handsome light material. It is very easily put together, no trouble to put on or take off, and folds compactly in a paper box 6x7 inches by one inch deep. There would be no discomfort in wearing it either day or night, and the protection against Mosquitoes, Flies, Bees, Gnats, etc., is perfect. The weight of the entire Veil being only five ounces. **Price, by Mail or Express, $1.00.**

Special discount to dealers, on ½ dozen or larger quantities.

THOS. G. NEWMAN & SON,
923 & 925 West Madison St., CHICAGO, ILL.

Dadant's Foundation Factory, wholesale and retail. See Advertisement in another column.

WEEKLY EDITION
OF THE
AMERICAN
ESTABLISHED IN 1861
OLDEST BEE PAPER IN AMERICA
BEE JOURNAL

THOMAS G. NEWMAN,
EDITOR.

Vol. XXI. August 26, 1885. No. 34.

APICULTURAL NEWS ITEMS.

EDITORIAL AND SELECTED.

Don't bring "strife" into the JOURNAL,
Lay "anger" and "spite" aside;
But at this temple's gate to drop
The "strife" of the world outside.
Don't "vent" any personal quarrels,
Or bring their discordant gloom;
You may argue with words of "honey,"
But for "stings" there is no room.

It is at the quilting-"bee" where you hear the "stinging" remark.

The value of the honey imported into Great Britain during the month of June, 1885, was £6,848, or about $32,500.00.

The Indiana State Fair and Exposition, will be held in Indianapolis, during the week commencing Sept. 28, 1885.

Good-nature, like a bee, collects honey from every herb. Ill-nature, like a spider, sucks poison from the sweetest flower.

The Illinois State Fair will be held in Chicago during the week commencing Monday, Sept. 14, 1885, and promises many attractions.

When a Bee alights on a person as it would on a tree or fence, let it alone and it will in a moment fly away. It is very seldom that they will sting, except when defending their homes.

In England the temperature has been low since July 1, with a profusion of showers accompanied with strong withering winds, the average night temperature being 40°, and the day 60°, giving a mean of 50°—too low for honey secretion or gathering. White clover gave a good yield of honey during June, but since that there has been no honey gathered.

When an energetic organization, such as the Bee-Keepers' National Union should be, enters actively and with determination into anything—its influence is felt far beyond its numerical strength. Men often fight more upon the courage of others than upon their own. Those who have not yet "joined the Union army," are invited to read the article on page 533, entitled, "Is the 'Union' of Value or Not?" and then act as becometh a generation upon which rests the defense of "our chosen pursuit."

Detecting Glucose.—The Rev. J. G. Teter, in the *Bee-Keepers' Magazine*, gives the following test:

> A cheap and easy way to test the presence of the poorer grades of glucose in honey is to put some of it into a cup of tea made strong. If it is heavily adulterated with the poisonous compound found in glucose, it will turn black almost like ink. Another test is to pour alcohol and this poisonous compound together. Pure honey and pure alcohol will unite, but pure alcohol and this poisonous compound will separate like oil and water.

The St. Louis Fair opens Monday, Oct. 5, and continues for six days. The premium list contains 24 departments, and $73,000 is offered in premiums. A rate of one fare for the round trip has been made by all railroads running within 500 miles of St. Louis. $130 are offered as premiums in the Apiarian Department. Any of our subscribers desiring a copy of the premium list will receive one free, by addressing Festus J. Wade, Sec., 718 Chestnut St., St. Louis, Mo.

Honey has been known to commerce about 2,500 years. The Jews were engaged in trading it at Tyre, that old and honored mart of trade in Phœnicia, some 600 years before the Christian era, as we are informed in the Bible (Ezekiel 27: 17). Sirach, who also lived about that time, mentions it with flour, milk, etc., among the necessaries of life. Yet the scientific management of bees has not been practiced for 50 years. And instead of its being now enumerated among the necessaries of life, it is too often thought to be a luxury. Why are people so slow to realize its value as a sweet, as well as its health-giving qualities? Does the "sting" frighten its thousands yet?

Selling Honey at Home.—The Minnesota *Herald* remarks as follows about a successful honey-producer of that State, and one of our correspondents:

> Mr. Fayette Lee, of Cokato, Minn., has about 130 colonies of bees, and has extracted 3,000 lbs. of honey. We doubt very much if any man in the State has made bee-keeping such a study, or has carried on the business so industriously and to such satisfactory results. Mr. Lee obtains the very best Italian queen-bees, thus bringing the amount of work performed by a colony to its maximum quantity. He is selling extracted honey at 10 cents a pound, or if in sections, 15 cents per pound. We believe that a steady sale can be found for first-class honey, such as his, in all the neighboring villages. We are pleased to learn that Mr. Lee will exhibit comb honey at our State Fair, and we shall expect to see samples at our County Fair.

It is a well-settled fact that bumble-bees contribute their share toward the fertilization of red clover, while visiting the blossoms for the nectar they contain. Italian honey-bees also perform the same office for the clover, and many other flowers whose nectaries were too deep for the "old-fashioned" black honey-bee. There is no way of keeping colonies of bumble-bees alive through the winter. All but the queen-bee die late in autumn, because they have lived out their life. The following spring more bees hatch out from eggs laid by the queen, live out their summer life, and die.—*Prairie Farmer.*

A dog in the neighborhood of Los Angeles, Calif., is passionately fond of honey, and to gratify his taste, he robs hives whenever an opportunity offers. He h grown quite expert in the business, au an extract the sweet stuff with great dexterity.

Dakota Territorial Fair will be held at Huron, on Sept. 29 and 30 and Oct. 1 and 2, and the prospects for a grand success are very flattering.

Every progressive bee-keeper has learned that appearance has much to do with the sale of the products of the apiary. Honey put up neatly and in a convenient manner for both dealer and consumer to handle, is what the markets of the present time demand.

Manufacturers of all classes, who desire to succeed in business, strive to create a demand for their *brand* of goods; hence upon every individual package of superior goods they cause their private business card to be placed—giving *name and address.* Why need bee-keepers be an exception to this rule? They need not, and should not be. When once in this manner your reputation has been established with the consumer, a demand for *your brand* of honey is created, and they call for that every time. The avenue reaching this result in its fullest extent, has in the past been almost wholly closed. The crating of *comb* honey gives you a standing with the dealer, but you have been wholly unknown to the consumer. At last the way is opened, and the *folding paper box* comes forward, promising the result so long desired, and how admirably it meets the demand may be seen by the following description:

> The box is made of *manilla board*, with a *double lap and tuck* at each end, forming a very strong and tight box, allowing no "drip." On one edge is a nice tape handle, by which it is carried, making it in all a very pretty and convenient package. It takes the place of glass, both on the section and crate. It saves wrapping by the dealer. Its use is economy for producer and consumer. Being a folding box, it can be shipped in the flat, making transportation light.

We have received one of these excellent contrivances, and we are more than pleased with it. As they are cheap, only about 1¼ cents each, they ought to be used universally. The local markets, built upon local reputations, are the methods leading to success. Get these boxes with your name and address printed on them, and thus build up your *own* markets.

The Production of Wax.—A correspondent of the *New England Farmer* writes as follows on this subject:

> Before the habits of bees had been studied, it was supposed that wax was collected from flowers, but later investigation shows that wax is a natural secretion of the bee. It exudes from the body, between the rings, in minute scales. This the bee takes in its "hands," works it like a piece of dough, and places it where it is needed. If comb-building is in process, it deposits the piece of wax on the edge of a partly built cell; another bee then attacks it, gives it a twist or a pinch, and smooths it with its mandibles. Sometimes three or four bees will find something to do with that particular crumb of wax.
>
> The workers are so many, and work with such rapidity, and do individually apparently so little, that the eye hardly perceives, in a short interval of time, that the structure, the comb, increases in size; but close the hive and examine the same cell in an hour, and its greater length is seen at once.
>
> Evidently wax is present when it is wanted, and absent when there is no use for it. This may not be the case, but appearances favor it. If there be no more room in a hive for comb, no wax, or very little, is needed; but if an empty frame be placed in this hive, the bees begin at once to fill it with comb.

QUERIES

WITH REPLIES by Prominent Apiarists.

Rearing Late Drones.

Query, No. 103.—How do queen-breeders keep drones late in the summer? Do they rear them when wanted, or do they keep spring drones? If the latter, how?—H. J.

G. M. DOOLITTLE answers: "After drones are being killed, I take what drone-brood I can find in my best blooded colonies and place it in a queenless colony, which will preserve the drones."

G. W. DEMAREE says: "The querist speaks of 'spring drones.' Bees rear drones more or less until the early honey-season is over. I keep drones all summer and fall by transferring drone-brood to nursing colonies that have no laying queens."

JAMES HEDDON replies: "Most queen-breeders deem it best to cease queen-rearing when drones disappear. During emergencies they can be kept in queenless colonies."

DR. G. L. TINKER remarks: "They are kept in queenless colonies or nuclei. The life of a drone is seldom more than three months, so that spring drones cannot be kept until fall. I have kept 50 to 100 as late as Nov. 1, and had queens mated, but they were hatched in August."

J. E. POND, JR., says: "I do not know the methods used by others, but I believe that the surer way is to keep 1 or 2 colonies queenless, stocking them up occasionally with frames of capped brood. Of course the drones should be from the best queens in the yard."

PROF. A. J. COOK answers: "Full, strong colonies will not destroy their drones till it is too late to breed. At least they never do in our apiary."

CHAS. DADANT & SON reply: "They always have enough queenless colonies to keep all the drones they need. Besides, very few queens are reared late in the season."

W. Z. HUTCHINSON remarks: "I usually keep a few old queens, and by feeding their colonies, drones will be reared quite late in the season."

* * *

Winter Repository for Bees.

Query, No. 104.—I want to build a winter repository for my bees. There is a clay bank or hill near my bee-yard; if I build a house walled with stone in that bank, 18 or 20 feet long, 7 feet high, 5 feet underground and 2 feet above ground, with the front end all out, will it be too damp for bees in winter?—K.

DR. C. C. MILLER replies: "No."

W. Z. HUTCHINSON replies: "I think not."

PROF. A. J. COOK answers: "Surely not, if well drained. We do not know that dampness is injurious to bees. I should be much more concerned to have the temperature entirely in my control. Give me a cellar that will not vary from 45°, and good stores, and I have no fear. This is my opinion after many years of successful wintering, and after watching others who have wintered bees well."

G. M. DOOLITTLE says: "No."

J. E. POND, JR., remarks: "I know nothing of wintering bees in special repositories. I have always kept mine on the summer stands, and I have never yet lost a colony either from climatic changes or disease. I do not believe that cold, of itself, ever causes the death of a colony; the evidence of many shows that dampness also does not have an unfavorable effect."

CHAS. DADANT & SON say: "We are inclined to think that it will hardly be warm enough if you live in the North. It will be dry enough, unless it is not well drained."

DR. G. L. TINKER answers: "No; but it may get too cold. A damp cellar is, no doubt, the best to winter bees in. A moist air is promotive of health in our houses—why not in bee-hives? Dampness in hives is one of the agencies in causing bee-diarrhea only when the temperature is so low as to condense the vapor, or where there is insufficient ventilation—one or both. Those who have been so fond of noting that since bees may winter well in damp cellars, the humidity theory is thereby disproved, would do well to consider the difference in effect on animal life between a warm damp atmosphere and a cool damp one."

JAMES HEDDON says: "I should have no fears of dampness whatever with a wall so much out of ground. I should fear the running down of the mercury during our severest weather, unless some special means for keeping up the temperature was provided. I should like to have that part of the wall double."

* * *

Local Convention Directory.

1885. *Time and place of Meeting.*

Aug. 25.—Southern Wisconsin, at Janesville, Wis.
John C. Lynch, Sec.

Aug. 25.—Des Moines Co Iowa, at Burlington, Ioa.
John Nau, Sec.

Aug. 25.—N. W. Ill. and S. W. Wis. at Rock City, Ill.
J. Stewart, Sec., Rock City, Ills.

Sept. 1.—Linwood, at Rock Elm Centre, Wis.
B. J. Thompson, Sec., Waverly, Wis.

Sept. 1, 2—W. N. Y. and N. Pa., at Salamanca, N.Y.
A. D. Jacobs, Sec., Jamestown, N. Y.

Sept. 3.—Eastern Indiana, at Richmond.
M. G. Reynolds, Sec.

Sept. 8—12.—Iowa State, at DesMoines, Iowa.
Wm. Goos, Sec., Davenport, Iowa.

Sept. 10.—Patsalaga, at Ramer, Alabama.
M. G. Rushton, Sec., Raif Branch, Ala.

Oct. 10.—Wabash County, at N. Manchester, Ind.
J. J. Martin, Sec., N. Manchester, Ind.

Dec. 8—10.—Michigan State, at Detroit, Mich.
H. D. Cutting, Sec., Clinton, Mich.

Dec. 8—10.—North American, at Detroit, Mich.
W. Z. Hutchinson, Sec., Rogersville, Mich.

☞ In order to have this table complete, Secretaries are requested to forward full particulars of time and place of future meetings.—ED.

Honey and Beeswax Market.

Office of the AMERICAN BEE JOURNAL,
Monday, 10 a. m., Aug. 24, 1885.

The following are the latest quotations for honey and beeswax received up to this hour:

CHICAGO.

HONEY—Receipts of comb honey are coming more freely, and the demand is about equal to it. Yet 15c per pound is all that can be obtained. Extracted honey ranges from 5@8c for the different grades and styles of packages.

BEESWAX—22@23c.

R. A. BURNETT, 161 South Water St.

BOSTON.

HONEY.—There is no change in the market, to speak of. We have had some new Vermont white clover honey in 1-lb. sections, which is very fine. There is a large crop in that State. Prices remain as follows: For 1-lb. sections, 16@18c.; for 2-lbs., 14@16c. There is little or no sale for extracted.

BEESWAX.—30 cts. per lb.

BLAKE & RIPLEY, 57 Chatham Street.

NEW YORK.

HONEY—The honey market is very quiet, and will continue so until fall trade opens up. Some old stock is on the market yet, with small shipments of new comb honey arriving. Southern extracted honey is coming in very freely. Quotations are as follows for comb honey: Fancy white in 1-lb. sections, 14@15c; fair to good in 1-lb. sections, 12@13c; fancy white in 2-lb. sections, 13@14; fair to good in 2-lb. sections, 11@12c; fancy buckwheat in 1-lb. sections, 9@10c; fancy buckwheat in 2-lb. sections, 7@8c. Extracted white clover, 6@7; buckwheat, 5@6c; Southern, per gallon, 55@65c.

BEESWAX—Prime yellow, 25@28c.

MCCAUL & HILDRETH BROS., 34 Hudson St.

CINCINNATI.

HONEY—The market is quiet with fair demand for extracted, and an abundance of offerings from commission houses and producers. Prices range between 4@8c on arrival. There is but little new comb honey in the market, with an occasional demand. Prices nominal.

BEESWAX—Is in fair demand with liberal offerings, and brings 20@24c on arrival.

C. F. MUTH, Freeman & Central Ave.

SAN FRANCISCO.

HONEY.—New comb honey sells slowly because of last year's crop now on hand. We now quote—Extracted, old dark 4½c.; new white, 5½@6 c.; dark, 4¾@5c. No extra white coming forward.

BEESWAX—Quotable at 23c.—wholesale.

O. B. SMITH & CO., 423 Front Street.

CLEVELAND.

HONEY.—The new crop is beginning to arrive and is selling at 14@15 cts. per lb. for choice 1-lb. sections. Old honey is very dull—none selling although freely offered at 10@12 cts. Extracted, as usual is not in demand in our market.

BEESWAX.—20@22 cts. per lb.

A. C. KENDEL, 115 Ontario Street.

KANSAS CITY.

HONEY—Trade in this article is very quiet just now. Nothing sells at this time of year except extracted honey, in bulk and small glasses and tins of honey. Some large sales of extracted this week at 5@6c for southern, and 6@7c for clover and sage. Comb honey nominal, at 12@13c for choice white 2-lb. sections, and 13@14c for 1-lb.

BEESWAX—Weak at 20@25c.

CLEMONS, CLOON & CO., cor. 4th & Walnut.

* * *

☞ To create Honey Markets in every village, town and city, wide-awake honey producers should get the Leaflets "Why Eat Honey" (only 50 cents per 100), or else the pamphlets on "Honey as Food and Medicine," and scatter them plentifully, and the result will be a DEMAND for all of their crops at remunerative prices. "Honey as Food and Medicine" are sold at the following prices:

Single copy, 5 cts.; per doz., 40 cts.; per hundred, **$2.50.** Five hundred will be sent postpaid for **$10.00;** or **1,000** for **$15,00.** On orders of **100** or more, we will print, if desired, on the cover-page, "Presented by," etc. (giving the name and address of the bee-keeper who scatters them).

CORRESPONDENCE

Explanatory.—The figures BEFORE the names indicate the number of years that the person has kept bees. Those AFTER, show the number of colonies the writer had in the previous spring and fall, or fall and spring, as the time of the year may require.

This mark ⊙ indicates that the apiarist is located near the centre of the State named: ♂ north of the centre; ♀ south; o+ east; +o west; and this ♂ northeast; ~o northwest; o~ southeast; and ♀ southwest of the centre of the State mentioned.

For the American Bee Journal.

Is the "Union" of Value or Not?

J. E. POND, JR.

I do not understand the apathy that seems to exist among our bee-keepers in regard to our Union for defense; nor can I understand why every bee-keeper in the country does not respond at once to the call, and enroll himself on the list of members thereof. There is no question but that the "Union" is of importance to the fraternity as a whole, although, perhaps, there may be cases (like my own for instance) where no particular individual benefit will result from it. We, however, as a class should drop selfishness, and instead of saying *cui bono* as to ourselves, should ask simply, will the "Union" be of any advantage to the fraternity as a whole? To this question there can be but one answer. We, as a class, are assailed in a "tender spot" through one of our fraternity (Mr. Freeborn). This suit against him, while purely an individual matter in one sense, is a blow at the occupation of bee-keeping, and as such should be at once resented by us all. Suppose for instance that the suit should result unfavorably to Mr. F., in what position then are we all placed?

The principle extends further than "sheep," and may be carried to all classes of stock, and further than that even as was the result in Greenfield, in my own State a few years ago, when a bee-keeper was driven from that town with his apiary, because the ignorance of the community claimed that the fruit trees were injured by his bees sucking the nectar from the blossoms that was needed to perfect the fruit.

The same kind of ignorance is the basis of this "sheep" suit, and unless the case is well and fully defended, a verdict may be recovered against the bees. This suit then being one that affects us as a whole, should not be allowed to rest unaided upon the shoulders of Mr. F., but each of us should join the Union, and thus aid him in its defense. The amount required from each individual is small, and will not become a burden upon any of us.

There is more to this question, however, than the simple contribution of $1.25 each. If a large majority of the bee-keepers in the country respond to the call, it will show the public that we are alive to our interests, and intend to defend them to the bitter end, and the result will be that by presenting a bold and determined front, we shall assure any possible antagonists that we are not to be assailed with impunity by any one who fancies he is aggrieved. On the other hand, if only a few of us respond in this matter, it will tend to show that either we take little interest in the matter of protecting our rights, or else that we believe ourselves in the wrong, and consequently prefer to save our dollars rather than invest them where we shall lose.

Let me urge one and all to enlist in this cause; do not delay a moment, but at once send in your names; and what is of more consequence still, your money, and thus show the public that you do not propose to be intimidated or to allow any one to drive you from the field without first making a strong and bitter fight to accomplish it.

I might amplify on this subject to a much larger extent, but I do think that there is no need of doing so further, and I trust that the list of members published in the BEE JOURNAL, will, by the first of September next, have increased from less than 200 to at least 2,000.

Foxboro,o+ Mass., Aug. 13, 1885.

For the American Bee Journal.

Identifying Bees.

J. H. ANDRE.

Several weeks ago I gave as my opinion that it would be a hard point to prove the identity of the bees in the infamous lawsuit. Now, I do not wish to be misunderstood; for the absurdity of the thing—that bees would go that distance and drive sheep from the pasture—is only exceeded by the absurdity of thinking of saddling it on Mr. Freeborn, when, perhaps, his bees were not one-fourth of the number of those that visited the field; and in order to prove that they went there at all, it would require an expert bee-hunter to set the bees at work and line them across Mr. Freeborn's premises, and see them go directly into the hives. Even after this was done, there would be technicalities. One might set bees at work that went in the direction of Mr. F's apiary, and not go there at all; and Mr. F's bees might work in with the rest, after his own premises were reached.

It is 30 years since I took my first lessons in bee-hunting, and I would not think of testifying even circumstantially, where bees went to, by seeing them leave the flowers in the field, for they might turn after going ten rods. Old bee-hunters say that bees will turn in their course sometimes after they have been "lined" half a mile, especially if it be on a hillside, or where anything obstructs their course. The old and oft-repeated expression, "straight as a bee-line," is quite untrue in many instances.

Bees, when working on the flowers, are very timid, and this is more marked when they are working on white clover, for the reason of its being close down to the ground, and the field being so free from weeds, etc., where it is natural for clover to grow, thus giving the bees an unobstructed view of stock feeding upon it, when they leave immediately for other parts of the field. Bee-hunters have to use extra caution in catching bees that are working on white clover.

Buckwheat is in blossom, but it does not seem to yield its usual amount of honey.

Lockwood,♀ N. Y., Aug. 10, 1885.

For the American Bee Journal.

Wintering Bees—Good Report.

FAYETTE LEE.

To winter bees in the cellar there should be enough bees to cover most of the combs of a hive, and 15 pounds of good honey, sealed over if possible. Put the bees into the cellar before the frost gets inside the hive, place them 2 feet from the cellar bottom, and leave the entrances wide open. Put a wedge ¼ of an inch thick at the back end of each hive between the bottom-board and the hive, to allow ventilation, and keep the cellar at 45° until Jan. 20, then 40° until March 1, and then 38° until the bees are taken out. Keep them in the cellar five months, unless it is very warm in March. A winter flight does more harm than good.

I have had some inquiries as to how I wintered my bees the past winter, when nearly all the bees in the North perished. The above way is how I did it. Does any one think that I would go to the trouble of taking away the pollen? No, no, that is not the way; it is dampness and low temperature that kills the bees. I lost only 6 out of 80 the last winter and spring, and in the winter of 1883-84, I lost only 5 out of 65.

This season I have already taken 4,000 pounds of honey, and 1,000 pounds are in one-pound sections. It is mostly basswood honey. The best day's gathering from one colony, on the scales, was 21 pounds. That colony has gathered 175 pounds, having stored 84 pounds in seven days. I extracted three times from the basswood flow in 15 days, and I think that is often enough in order to get No. 1 honey. I have the straightest, nicest, and whitest and best capped sections of honey that I have ever seen.

Whosoever would be a successful bee-keeper must stick to it and keep his eyes open, and his mouth full of honey. To those who lost their bees last winter, I would ask, can you not discover the cause? If I have given any light in this my experience for nine years, you are welcome to it. Fill up the old hives, and let the joyful hum of the honey-bee make your hearts glad. I have bought 28 colonies more, so I now have 129.

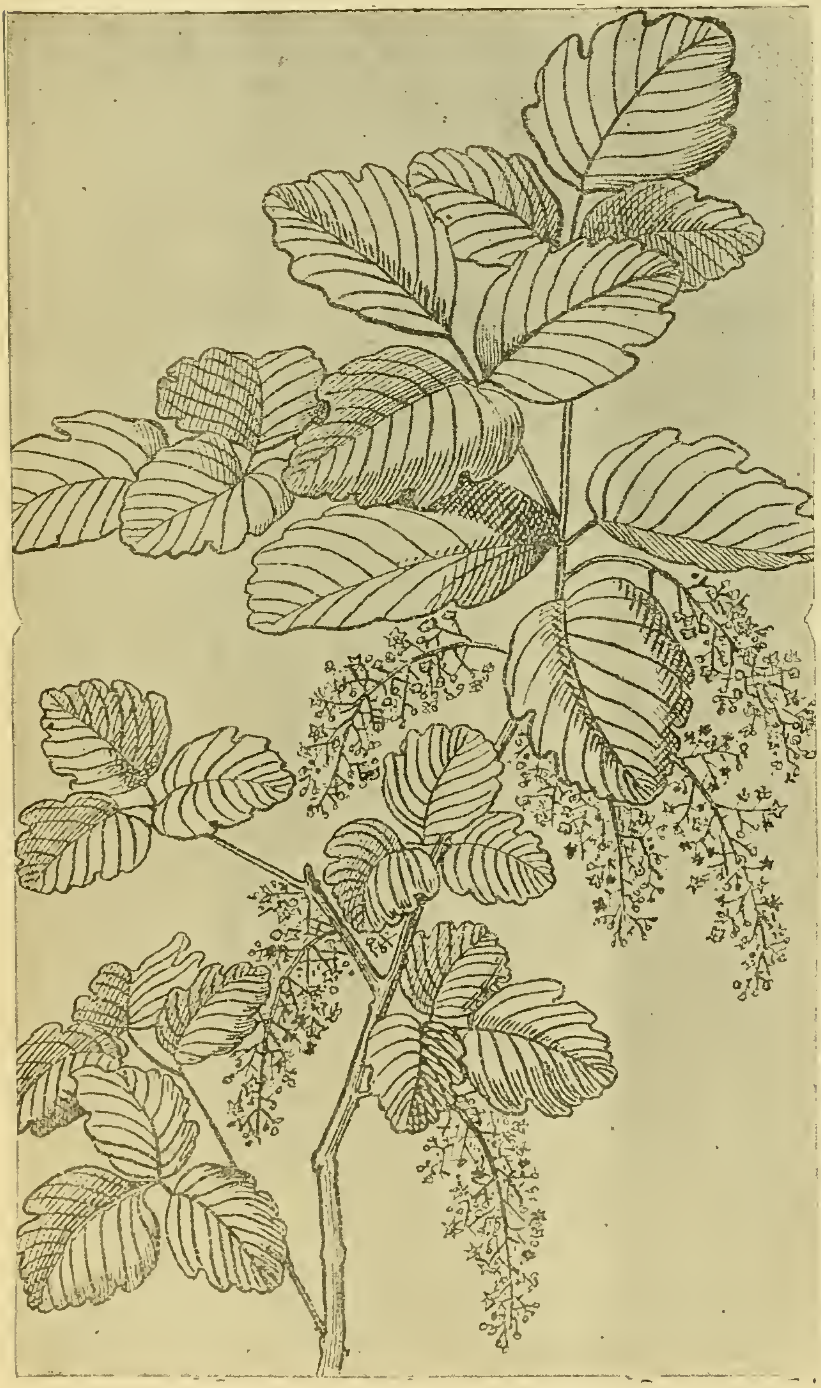
Cokato,⊙ Minn., Aug. 19, 1885.

For the American Bee Journal.

The Poison Oak.

W. A. PRYAL.

"In the nice bee, what sense so subtly true.
rom poisonous herbs extracts the healing dew?"



The lines at the beginning of this article are from Pope, and we have a plant here in California that these lines are applicable to—a plant that is common, and is also one of our poisonous "herbs;" it is, in fact, the most dreaded of all our wild plants growing near the habitations of white civilization. It is the poison oak, *Rhus diversiloba*. This plant is sometimes found growing in clumps by itself, at other times forming an underbrush, or promiscuously mixed up, as it were, with other plants; and then, again, I have seen it clinging to a considerable height, as ivy does, to large trees. Some persons who come in contact with this plant are so badly poisoned with it that their person becomes swollen and inflamed; their only desire seems to be to "scratch themselves to pieces." It is a pitiable sight to see a person thus afflicted.

A recent discovery of ours is that those who are subject to this kind of malady, are also affected by the sting of a bee; and when a bee stings them their skin becomes covered with a rash as if they were afflicted with oak poisoning.

As the Eastern readers of the BEE JOURNAL may not be interested to any extent in this subject, I will drop it, stating, however, that every one has a remedy for its cure. A new one is like that for a rattlesnake bite—a good "horn" of whisky, though I do not place much confidence in it; however, I have seen the efficacy of this cure for a severe bee-sting. The person was in a short time completely poisoned from head to foot, covered with a rash, swelling rapidly, and looked as if poisoned by both the sting and the oak; it was only the former, though subject, on the least contact with a dreadful affection of the latter poisoning. A good drink of whisky soon drove the bee-poison from the system, and the swelling in due time subsided. Now, let no one think that I am recommending every bee-keeper who receives a sting, to make for the bottle, and with it drive the sting from him, though it takes one poison to kill another.

I have studied this plant, of which there are two varieties in our vicinity—one poisonous and the other not—and I have found it to be a valuable honey-plant. In this I am borne out by the testimony of others in this State, who have watched bees working upon it during its season of blooming, which is in March and April—the two varieties keeping up a large supply of blossoms for almost two months. The honey is quite clear and delicious, and is in fact for clearness and flavor equal to any gathered in the vicinity of San Francisco.

The illustration gives a pretty fair representation of the manner of blooming, and the shape of the leaves. I trust that Eastern folks visiting this State will impress this picture on their memory, and thereby be able to distinguish this plant ere they, too, come in contact with it, for we are anxious that our friends will not be poisoned.

North Temescal, Calif.

For the American Bee Journal.

Introducing Virgin Queens.

J. M. HICKS.

I have kept bees for over 40 years, and have so often had some very fine queens hatched from such colonies as possessed desirable traits, as to warrant me in the effort to have all my colonies composed of the same if it were possible; after having many fine queens hatched from the eggs of a chosen colony.

I also have made special efforts to have some of the young queens properly introduced into other queenless colonies made so for the purpose; but in nearly every case the queens were killed. I have always found that queens which are hatched in strong, vigorous colonies, are much the best; hence it will be readily seen that all the colonies into which I attempted to introduce the virgin queens, were strong and vigorous, having been robbed of their queen only a short time; and in some instances they were allowed to remain queenless from one to three days before the young queens were given them. Those virgin queens were reared in strong colonies, and then the cells cut out and properly placed in a queen-nursery in strong colonies, for hatching.

To my certain knowledge I have never had but one virgin queen accepted and fertilized when introduced as above described; and this one case was accomplished in one of my apiaries in Ohio, in 1883. In this instance the queen was not long lived, the bees having superseded her before she was 60 days old.

Can any one explain why it is that virgin queens cannot be safely and surely introduced into other than the colonies in which they are hatched, and become fertilized? For those who may try it, I predict a failure at least 85 times out of 100.

Battle Ground,⊸ Ind.

For the American Bee Journal.

Bees Working on Red Clover.

W. M. CHAPEL, (25—52).

My bees are partly black and partly hybrid-Italians. I began the season with 25 colonies in box-hives, and increased them to 52. I have secured only 100 pounds of surplus comb honey. The season has been very poor in this vicinity, and bees have not done much. It will be difficult for some of them to gather enough honey to winter on.

I have heard a great deal said about bees working on red clover, but I thought it to be mostly advertising material. The other day I was crossing a field of red clover (second crop) in full bloom, and to my surprise I found my bees working on it by the thousands. I examined more closely and found about three-fourths of them gathering honey, and the balance pollen. The honey gatherers would run their heads into the petal and crowd it down until they split the blossom and secured the nectar.

I went to my apiary and found my bees falling like snow-flakes in front of every hive, while underneath this falling mass there shot out from every hive a stream at lightning speed. More than two-thirds of these returning laden with the sweets of the field, would fall on the alighting-board and on the ground. I watched the bees in their flight, and found them coming and going like an oceanic tide, to and from the southeast, which is in the direction of the red clover.

I immediately repaired to the buckwheat lot (about three acres), to the northeast 30 or 40 rods, and found only a few scattering bees lurking on the blossoms.

It was about noon, and this was continued through the afternoon. I then and there concluded that I, as well as other folks, had bees that would work on red clover.

Kingston,⊙ Wis., Aug. 17, 1885.

For the American Bee Journal.

Have Bees the Sense of Hearing?

C. THEILMANN.

I have seen this question discussed in the bee-papers, nearly drawing the conclusion that bees cannot hear; but my experiments this summer have convinced me that bees *can* hear.

Last June I received a queen from a breeder in Massachusetts, which, on arrival, I put into a wire-cage and introduced her into a full colony; after 24 hours I let her loose, but the bees "balled" her. After re-caging her another 24 hours, I let her loose again and shut the hive quietly; five hours after I lifted off the section-case, one end of which I placed on the cap, and the other end rested on the rim of the hive 2 inches lower than the tops of the frames, the cap resting on the ground back of the hive. I then proceeded to look for the queen. I examined all the frames, but could not find her. I repeated it again, and when I lifted out the last frame, I noticed a rapid movement of the bees running over the frames and back wall of the hive under the case. Immediately the thought struck me that the queen was about the case, and I told my little student, who stood by, to see if she was not under the case. "Yes," said he, "she is there, and the bees are running to her." By this time there was quite a little cluster of bees around her, hanging down about 3 inches, with the queen on the lower end. The sight of this caused me to fear that I might lose my $3 queen, and I wanted to catch her, but at that moment she flew away.

The next day I looked for her in the hive, but could not find her. I immediately gave the colony a frame with ripe queen-cells, and three days afterward a swarm issued from that hive, which my student hived in the usual way; but when I came to the apiary towards evening, I found only a handful of bees in the new hive, and some of them still going back to their old home. The next day I was going to put another swarm with the little cluster, but I first looked to see what kind of a queen they had, and to my surprise I found that $3 queen.

Now, if bees cannot hear, by what way did these bees find the queen under the case? They surely could not see her from any part of the hive, and if it was the scent, as some authorities claim it to be, it surely would have kept the swarm with her, after being three more days with her in the old hive, from the time they found her under the case. In this instance it is evident that this queen called the bees by voice.

About two weeks after this occurrence, 2 swarms united, and my student hived them as they were. In the evening I came to the apiary and found one of the queens "balled" under the entrance. I caged her, and looked for the other, and found her on the first frame. I lifted her from the hive, all surrounded or imprisoned by a lot of bees. Having the frame in my hands about 3 feet from the tops of the frames in the hive, the bees that held her first let her have liberty to crawl about, and at that moment the bees in the hive came running up through the frames in every direction, looking upward, and formed in a cluster in the centre of the hive 6 inches high, endeavoring to reach the frame in my hand. I am sure that the bees in the hive could not see the queen in the position I held her on the frame, and any scent from her could not reach the colony so soon. I leave this case to the readers, to judge by what way this queen called the bees to come to her.

I have one more thought to advance in favor of this question: After swarming, when the first young queen is hatched and crawls about the hive, we do not hear any piping until the next queen hatches and is trying to emerge; then the first one hunts up dry, empty cells, grabs them with her mouth and feet, violently moves her head and wings, whereby she produces that piping sound which is immediately answered by the one yet held in the cell by the bees. Is this not good evidence that bees can hear? Or can any of our bee-authorities explain it otherwise? Notwithstanding that bees can hear, I have for the past five years laid aside pans, bells, and triangles, which I had in use for 12 years at swarming time.

Theilmanton,⊸ Minn.

For the American Bee Journal.

Eight or Ten Frame Hives?

C. P. DADANT.

On page 486 Mr. Heddon says that "'Critic' is not looking at apiculture in its broadest sense." I think that when Mr. Heddon is informed that "Critic" and the writer of this article are one and the same person, he will withdraw this opinion.

I do not at all agree with Mr. Heddon on the ten-frame hive; I quit making it 10 or 12 years ago, for a larger one, although I have about 100 ten-frame Langstroth hives in use yet. If Mr. Heddon were here I would have him ask the opinion of a host of laborers, farmers, and bee-keepers around us, who for years have used, or have seen in use, both the ten-frame Langstroth and a larger hive; and every man would tell him that the larger hive always gives the most honey on the average, and the least trouble.

Mr. Heddon seems to think that it is preferable to have 5 eight-frame hives to 4 ten frame ones. I think—nay I know that the profit is much less, and the manipulations more. The bees will swarm more in an eight-frame hive, because three-fourths of the queens have too little room for breeding; hence more labor, more outlay of hives and fixtures, and less honey.

He says that queens cost nothing during the swarming season. Yes, they cost the colony 30 days without breeding; and in practical bee-keeping it is cheaper to buy dollar-queens than to rear them. Our hives, containing the equivalent of 12 Langstroth frames, cost but little more than an eight-frame hive, and can be reduced to suit the size of the colony, or rather the laying-capacity of the queen, if necessary; but as a general thing a queen that cannot fill ten Langstroth frames during the breeding season, at the times when eggs are most valuable, is not fit to keep.

Mr. H. wishes to have it understood that he reduces the breeding-room to five frames. This would give the queen room for only a little more than 1,600 eggs daily. Indeed, it looks as if he thought that the less bees we have, the better.

He speaks of Mr. Adam Grimm, in support of his views. Mr. Grimm lived in a time when bees were high, and he found that it paid better to rear bees for sale, than to produce honey. The eight-frame hive will give plenty of swarms, as I said before, for the queen is soon crowded for room. I can bring as high authority in support of my views as can Mr. Heddon. About a week ago I visited Mr. Langstroth, and in discussing this subject, he told me that he had noticed that colonies whose hives contained 13 Langstroth frames, produced more honey, on the average, than those whose hives contained only ten frames. Mr. C. F. Muth was of exactly the same opinion.

To the beginners, who read our discussions, I would say: Do not rely altogether on any one bee-keeper's advice. You may try an eight-frame hive, and even a five-frame one, but please try a twelve-frame hive also, on a sufficiently large scale to make a test. You will find it better for wintering, better for the prevention of swarming, and better for the production of both comb and extracted honey. Perhaps the queens will not last quite so long, but the returns will be greater.

These are facts, not theories, long and thoroughly tried on hundreds of colonies, and the test is still going on with me.

Hamilton, Ills.

For the American Bee Journal.

That Contraction Method.

W. H. STEWART.

Since reading Mr. Heddon's article on pages 213 and 214, I have been anxiously looking for his promised explanation of his new method of changing sugar syrup for natural winter stores, "without cost, danger, or even the trouble of opening the hives;" and on page 437 he gives something of his promised article, which I eagerly read over and over again.

I must say that I am somewhat disappointed, for I there find little that I would dare to put into practice. I also think that Mr. Heddon's bees must work very differently from the way bees do in this locality. Mr. H. says: "I find that the queen uses these five combs [in his contracted hive] to that extent that I get as much brood in them as in any seven combs where the whole eight are used." I am now working my bees in hives 17x17 inches, and 9¼ inches deep, ten frames to the hive, and I find that the bees store the two outside combs with bee-bread and honey, which they use and must have to feed their brood. That leaves eight frames of brood, and now in the height of the breeding season I have the hives from two to four stories high; and in many of the second stories there are six combs of brood besides the eight frames below.

When these frames of brood in the second story are sufficiently advanced, I give them to nuclei, and thus, in a short time, those small colonies are built up to full strength, and ready for a surplus story. Any one must see that a colony on five, or even eight frames, in the brood-chamber, and the queen kept there by a honey-board, and only sections above that board, there cannot be more than ½ or ⅔ the brood in the hive that the queen is able to produce.

I have tried the same sized hive that I now use, with one side of the hive so arranged that it could be moved inward so as to contract the brood-chamber to any size all the way from ten to three combs, and I have found that the queens do not deposit eggs in the two outside combs next to the hive. It is true that we may so change the frames as to place full frames of brood next to the board, but in this locality the bees will allow the brood in those outside combs to hatch out, and then they fill them with honey and bee-bread as at first. They did this every time when I was using the adjustable hive, whether I had in few or many combs. Thus it is, that if I were to adopt Mr. Heddon's "contracting" plan, and have only five frames in the brood chamber, there would be but three frames of brood, which I think undesirable.

In the fourth paragraph on page 437, Mr. Heddon evidently gives us to understand that his system works best with German bees. Thus, if we would get the full benefit of his system, we must stop Italianizing and go at once to Germanizing.

It is well known by every well-posted bee-keeper, that when the stores run short in the latter part of the season, the rearing of brood is discontinued in proportion, and when once stopped will not be resumed; and Mr. H's plan would give us nothing but old bees to put into winter quarters; and if he puts up none but old bees next winter, he may give them what food he thinks best, and keep them as warm as he will, still he will have to report a loss again next spring.

He says that what little floating pollen is necessarily in honey, renders it less fit for winter stores than is sugar syrup. Every observing bee-keeper, located where the bees have access to the orange-colored asters that are found in great abundance along the streams late in the fall, knows that they gather a large amount of pollen from that plant, and if the brood and honey are kept out of the combs, they will be filled with this pollen; and if the combs that contain it are not taken away (and the hive opened for that purpose), there will be much more pollen in the brood-chamber where he has reduced them to "a perfect starvation condition," than would be found in a hive full of ordinary honey.

But Mr. H. says that bee-bread will not be eaten by the old bees, if they are warm enough. Perhaps that may be true; and perhaps this aster pollen (or bee-bread made from it) will prove to be harmless.

In November, before it is late enough to put the bees into the cellar, they are at times subjected to quite cold weather, and sometimes we look anxiously for several days, for a day warm enough for the bees to have a flight before we put them into winter confinement. But that day does not come, and we have to put them up and take our chances. Mr. Heddon's "contracting method" does not take all the bee-bread out of the hive, for he says that his "little brood-chamber contains but little honey and pollen," and his theory indicates that when cold, they will eat that pollen (or bee-bread, which ever happens to be present); and now that they have been cold, have warmed up by exercise, wasted tissue, and finally eaten bee-bread, how are we to get that bee-bread out of their intestines in steady cold weather, without a warm day for the bees to fly?

When Mr. H. says that he is absolutely certain that he will lose no bees next winter, he, according to his theory, virtually affirms that he is absolutely certain that when he gets ready to put up his bees next fall, the last day that he leaves them out will be warm and pleasant, and not turn cold enough to reduce the temperature in the hive so low as to prompt the bees to make extra exertion to warm up the hive. And furthermore, does not the exercise of a day's flight create an appetite in the bee for another meal of nitrogenous food? Again, how are we to know that all bees that have made an effort to warm up a cold hive, fly out the same day? If not, would they not spot the inside of the hive soon after put into the cellar.

If we reduce our colonies in the fall, to a "perfect starvation condition," would we not have a busy time in trying to keep one colony from plundering another? Would not those in a starving condition be found swarming out and forcing their way in with other colonies?

I admire the energy and the investigating disposition of Mr. Heddon; I wish to thank him for many good thoughts; I wish that he may successfully winter all his bees; and that he may be able to make us all understand how to "go and do likewise."

Orion, Wis.

For the American Bee Journal.

A Visit to a Large Apiary.

DWIGHT FURNESS.

Knowing from experience that such a visit is profitable in many ways, the close of the basswood honey harvest found me *en route* for Dowagiac, Mich. As I journeyed on, I, of course, watched closely from the car windows for signs of our favorite pursuit, but never a bee or a hive presented itself to view.

Dowagiac is an enterprising town of some 3,000 inhabitants. The hard, graveled streets, shaded by rows of maples, elms, basswoods and other trees, and the many beautiful lawns unmarred by fences, attract and charm the eye of the visitor.

A quarter-mile walk brought me to Mr. Heddon's house, only to find that that "spanking team," about which we have been told, had taken Mr. and Mrs. H. seven miles across the country to visit their Glenwood apiary. Workmen were at the home apiary, however, and thither we turned our steps.

A high and close board-fence surmounted by two strands of barbed wire shuts out the outside world, and a notice on the gate reads, "No admittance except on business;" but the "latch string is always out" for the visiting bee-keeper. The yard embraces about 1½ acres of sandy soil, with a slight southern slope, and is entirely free from obstructions, with the exception of several apple trees on the north side.

The hives, about 300 in number, face the east, and are spaced from 6 to 8 feet apart. Shade is secured by means of wide boards, which extend over the south sides of the hives, each one held in place by the weight of a stone. There is an air-space of ¾ of an inch between this board and the hive-cover. This readily-movable and controllable shade seems to be generally favored by large honey-producers.

Only 120 of Mr. Heddon's colonies survived the rigors of the past arctic winter. To re-stock his apiaries he invested some $700 in bees, and by skillful management has increased, in the two apiaries, to over 450 colonies, all in fine condition. The purchased bees being in all shapes and styles of hives, and rapid increase being desired, his apiaries were run almost exclusively for extracted honey. All are now on standard Langstroth frames.

Drones have been kept down (chiefly by the use of the knife), colonies transferred, the new stock re-queened, queens reared for market, and from 18,000 to 20,000 pounds of white honey secured. To perform this immense amount of work, two men and a boy have been constantly employed at the home apiary throughout the honey harvest. The two men removed and carried into the honey-house 1,500 pounds of honey in one day.

Although but little honey was being gathered at the time of the visit, the bees were quiet and gentle, queen-rearing was going briskly forward, and hives being constantly opened, with little or no trouble from robber bees. Queens are reared in full colonies, having all other brood removed. The date is marked on the frame containing the eggs or freshly hatched larvæ, and just before the time for queen-cells to hatch, the entire comb is removed to the lamp-nursery. The young queens are run into the entrances of hives containing queenless colonies or nuclei, using some smoke, with no appreciable loss. All records are kept on the backs of the hives with non-erasable crayon—a convenient method, but not so neat as might be desirable. Surplus honey registers are used on all supers, and are considered necessary in so large an apiary. Reversible frames are very extensively used and thoroughly tested; with them perfect sheets of comb and brood are secured, and they will remain a permanent fixture of these apiaries.

One noticeable feature, and a very important one, too, is the rapidity with which all manipulations are performed. Here the fact is recognized, that labor is the chief cost of honey-production, and every possible means of lessening labor and meeting the present and future demand for cheap honey, adopted.

Near the centre of the yard is a screen-house into which colonies manipulated during a honey-dearth, are carried. Comb honey supers are also placed here until free of bees. A large portable tent is sometimes used, but it is thought to be a poor substitute for the screen-house. In the southwest corner of the yard is the old honey-house, now used for a shop and the storage of articles and fixtures not in use. A little house for smoker fuel and swarming implements, on the north side; an underground cellar in the southern, and the new honey-house in the eastern part of the yard, complete the buildings.

The honey-house is a very complete, painted, two-story building, 18x30 feet, with a stone cellar full size, 9 feet deep, cement floor, no ventilators, and ceiled overhead with matched flooring. The first floor is laid with narrow oak flooring, the walls and ceiling covered with matched pine-flooring, and the walls and floor filled in with sawdust. Four large revolving windows, two on each side, pivoted at the top and bottom, give an abundance of light and ventilation. The door-ways in opposite ends of the building are provided with wire-screen doors and a projecting semi-circle of wire-cloth covers each window. In one corner of the room is a driven well and pump, in another is a large cook stove, and in a third is the honey-extractor, with comb-basket large enough to take the Langstroth frame in a horizontal position. At either side of the room is a long work-table. The upper story is reached by an outside stairway, and is used for storing surplus receptacles, combs, etc. The honey is stored in kegs holding from 50 to 100 pounds each. While practicality is not sacrificed to esthetical notions, everything is kept clean and neat, and one is impressed with the fact that here honey is produced at present minimum cost.

Upon Mr. Heddon's return we enjoyed those long talks so dear to the bee-man, and many new ideas were met with. All possible means were taken to make the visit pleasant, and I returned home feeling amply repaid for the time and money expended.

Furnessville, Ind.

For the American Bee Journal.

Do Bees Steal Eggs?

C. G. BEITEL.

On page 459, Maria Hawkins, of Cedar Rapids, Iowa, states a case in which I feel some interest.

On July 1, she says she put a swarm of bees into a hive in which the bees had died during the winter, and the frames were filled with combs, all ready for them to go to work; and that in some way the queen was lost before they were put in. On the fifth day thereafter she says that she found three queen-cells, and nine days after, she found they were still making queen-cells, and she asks, where did the bees get the eggs or larvæ from which to rear queen-cells?

A neighboring bee-keeper informs me that having a queenless nucleus for several weeks, he purchased an Italian queen an introduced her. A week after, he examined the nucleus and found no trace of queen, eggs or larvæ. Two weeks later he introduced another queen, which the bees killed at once. He again waited two weeks, when he proposed to introduce a third queen, when, lo! and behold, he, too, found three queen-cells! Now, where did these eggs come from?

These two cases I give as I heard and read them, but the following is my own experience, and I can vouch for the facts:

On July 4, last, having a colony of blacks, which was only medium strong, having failed to cast a swarm, and stored but 8 pounds of honey, I concluded to supersede the queen. To accomplish this, I carried the colony to a new stand, took out 4 frames of brood and honey, and after brushing off all the bees, I put them into a new hive and placed it on the old stand. The consequence was, the flying bees all came back to the hive on the old stand, while the queen and young bees with 4 frames of brood and honey remained in the old hive on the new stand. After they had quieted down, I caught the queen and destroyed her. On July 9, I again examined both hives, and found seven queen-cells in one and three in the other. So far everything was according to their nature. I cut all these cells out, and the next day introduced a queen to each of these half colonies. One was accepted, and the other destroyed.

On July 22, I again examined the queenless hive, and again found three queen-cells. Now, where did they get these eggs? It was too late to attribute them to the old black queen, and the only possible solution is, that the last queen introduced laid a few eggs before they killed her. I regret exceedingly that I destroyed these latter cells preparatory to introducing another queen, as the one killed was a bright Italian, and if she laid the eggs for these latter cells, the young queens would have told the tale, and thrown light upon the matter.

While I am unwilling to accord that almost human intelligence to bees, which some men do, yet may not their instincts of self-preservation lead them to steal eggs as well as honey? I would much like to hear the experience of others on this subject.

Easton, Pa.

Exchange.

Does the Queen Rule the Colony?

J. A. WARD.

It is supposed by many persons, among whom there are some well informed upon every branch of natural history, that the queen-bee is an absolute sovereign, and that she rules her subjects—the worker bees—by her royal edicts, from which there can be no appeal; that she plans the swarming movement, and in her jealous rage slaughters her royal offspring rather than bear the presence of a rival under the same roof with herself; and that she will even secretly assassinate her own tender princesses, while in an undeveloped state, and before they have emerged from the dark chambers of embryonic life; that she is terribly fierce and unrelenting in battle, when at war with a sister queen, into whose vitals she will plunge her poisoned lance with the most deliberate and deadly aim. And so the war is prosecuted until the last rival lays dead at her feet, or until some more powerful princess of her own blood has thrust her dagger into the heart of the royal mother, and reigns herself supreme; thus carrying out the theory of the late Mr. Darwin, of "the survival of the fittest." Outside of the hive, however, the queen has the name of being exceedingly timid, never trying to defend herself, though she may be roughly handled and have every opportunity to use her sting if she choose to do so. This I know to be true, but as for the royal government, fierce hatred for her young queens, and bloody butchery of the same, I believe to be a grand fabrication, having an existence only in the fertile brain of some pugnacious queen-fancier.

But without further comment let us examine the domestic affairs of the hive household, and learn, if we can, what is going on therein, and who plans the work and *bosses the job*. The queen, the mother of the hive, we will find busy at her daily work, if in the honey-producing season, moving from cell to cell and inserting her long body into each, depositing an egg at the bottom, and in this steady way will fill many sheets of comb during the 24 hours. And while thus engaged in filling the position in the hive that nature intended that she should fill, wearing out her own life in reproducing her own kind, she heeds not the busy scenes that are taking place around her. The workers, laden with honey and pollen, run pell-mell over her back, and without the least disturbance to her matronly equilibrium, she goes on attending to her own business, and at the same time allows all other members of the hive to do the same.

Occasionally, however, she is called to a halt by some one or more workers, laden with honey, whose instincts have constituted them a self-appointed committee to feed the queen, and from their hands (as it were) she accepts the proffered food, receives and returns the caresses of those who have treated her so kindly, and then with dignified deportment returns to her labor.

During all this time, the workers, divided by their natural instincts into different departments of labor, that the work of the hive may proceed in perfect harmony, we find some gathering honey from the fields, others feeding and capping over brood, others again carrying honey from its scattered condition in the hive and placing it in a compact manner above the brood-nest, or in surplus boxes; some mixing the bee-bread with honey and placing it in a position where it will be most easily reached when wanted, either for the younger bees or food for the laborers, where it is also capped over by others than those that place it in the cells. All these different departments of labor are being attended to at the same time, and doubtless without the consent, knowledge or orders of the queen.

We also notice bees stationed at the entrance of the hive acting as guards, which zealously keep out all robber bees, wasps, bumble-bees, ants, roaches, etc,, etc., that are always on the lookout, watching for a chance to stick their noses into the sweet stores treasured up on the inside of the hive.

There is still another lot of bees in and about the hive, from whose actions we might readily conclude were dead-heads, did we not know to the contrary. These we see hanging ing in festoons to the end of combs and empty frames, many of them with their heels up and heads down, or piled up, if the weather is very warm, on the outside of the hive, looking full, fat and sleepy, and apparently as happy and contented as if they possessed honey enough to last them the balance of their days. These are doubtless wax-secreters, whose whole duty appears to be to eat honey and secrete wax, while others gather it from their bodies and manufacture it into beautiful combs. These comb builders we can see with feet, teeth and feeders busily engaged plying their ingenious vocation. All these different departments of labor and apparent skill are doubtless performed through or by the instincts of the workers, and not at all by the orders and supervision of the queen.

But to return to the queen: If she ruled the hive with sovereign power, she would not be supplanted by the workers when she becomes old and worn out and no longer able to keep up the colony, but would remain mistress of the premises and keep her subjects at work as long as a single bee remained in the hive to obey her royal commands.

That the queen has nothing to do with the swarming movement I have had abundant proof, while watching the bees when swarming. Upon one occasion I saw the workers push the queen off the alighting-board a number of times before she would take to the air. Every time that she was pushed off she would return, until finally she gave it up and took to the air with the workers. Every one who keeps bees knows how common it is for them to swarm, and after being in the air for a few minutes, to return to the hive. I have upon several occasions hived swarms that after remaining in their new quarters for half an hour or so, returned to the old hive.

What is the cause of such behavior? Simply this: When the workers have made due preparations for swarming, they raise the alarm, which every bee, through the gift of its inborn instincts, understands, and they rush out pell-mell, and in a large majority of cases the queen catching the excitement, rushes out with the workers. But at other times she is not quite so easily excited, or is too busy to pay any attention to the uproar, and remains in the hive attending to her business, and after the bees have circled in the air for several minutes, or perhaps settled, they make the discovery that their maternal ancestor has been left behind; and, knowing from their instincts that a colony without a queen or mother-bee would soon perish, they return to the old home. I have known swarms to come out and return in this manner three or four times before they could induce the queen to follow,

I was taught to believe by writers on bee-culture, that if two queens were put in the same hive, that the bees would clear a space, form a ring in the centre into which the queens would enter, and without much preliminary sparring would pitch in for "the survival of the fittest;" continuing the *bout* until one of them is placed *hors de combat*. This is certainly a mistake in a majority of cases, so far as my observation extends, and I have united a great many bees, turning the queens in with the workers, and upon examination in a few hours afterwards have rarely failed to find one of the queens in the centre of a ball of worker bees, where they would generally keep her until she was dead, smothered and squeezed to death. Hence we find that the workers kill the surplus queens, and that the queens themselves have nothing to do with it.

I also find stated in books written upon the bee-subject, that the workers have to guard all the queen-cells after they are built and the eggs placed in them, to keep the old queen from destroying them before they are matured. This may and may not be true; my own opinion being in the negative. As the workers destroy all the extra queens that are matured, doubtless they destroy all extra and useless cells as soon as their instincts tell them that the swarming season is over. There can be no consistent argument brought forward to show that the instincts of the queen prompt her to do anything that would prevent the propagation of her kind, and as she cannot be moved to such acts by a rational feeling of jealousy, as all feelings for the opposite sex are supposed to be lost as soon as she has mated with a drone, and become fertile, the whole matter must be a mistake.

SELECTIONS FROM OUR LETTER BOX

Good Honey Season.—D. K. Knoll, Salamonia,⊶ Ind., on Aug. 13, 1885, writes:

I had 19 colonies of bees in the spring of 1885 for work, in good condition, and I have 2,000 pounds of honey (half comb and half extracted). They increased to 38 colonies; I sold 2, leaving me 36 colonies for this season's work. They increased by natural swarming.

Good Lot of Honey,—T. F. Bingham, Abronia,♀ Mich., on Aug. 19, 1885, writes:

We have a lot of good extracted honey for this region, but it is not yet sold.

No Basswood. — O. B. Barrows, Marshalltown,⊙ Iowa, on Aug. 14, 1885, writes:

Bees did well while white clover lasted, but the basswood secreted no honey. I did not see a bee at work on the linden blossoms, and as that is one of our principal sources, the crop of surplus in this section will be light.

The Syrio-Albino Bees.—Dr. G. L. Tinker, New Philadelphia,⊶ O., on Aug. 14, 1885, writes:

I mail you to-day a box containing some worker bees of the new strain of Syrio-Albinos. I have a few queens producing workers all like these. I consider them the most absolutely beautiful bees that it is possible for man to produce by the most careful selection.

[The bees are very fine, well developed, and beautiful in appearance.—Ed.]

Poor Honey Season.—G. W. Morris, Cornishville,⊙ Ky., on Aug. 13, 1885, writes:

This has been the poorest season for honey since I have kept bees; there being only about 400 pounds of honey in my 18 two-story Langstroth hives, which could be extracted and called surplus. I have had but one swarm this season. Some who have kept bees a long time in this county (Mercer), say they expect to lose more than half their bees during the coming winter. The Langstroth hives filled with Italian bees, so far as tested here, prove to be the best for extracted honey. Old boxes, log-gums, and black bees are almost a failure. Bees are getting about as much as they consume daily from the buck-bush. I think well of the Bee-Keepers' National Union.

Regularity.—O. Fitzalwyn Wilkins, International Bridge,♀ Ont., on Aug. 17, 1885, writes:

I receive the American Bee Journal every Wednesday at 8:25 p. m., which is more than I can say for the regularity of other apicultural periodicals.

Shallow Reversible Frames.—Dr. J. C. Thom, Streetsville, Ont., asks the following question:

The frame I use now being 10¼x13¾, inside measure, I would like to ask Mr. Heddon, through the Bee Journal, if by adopting the reversible method I cannot make it as successful toward the production of section honey, as if I adopted a shallower frame, say 9 inches, the hive holding 9 frames.

[As much depends upon the operator and location in which he operates, I could not say positively just how any of your experiments would turn out. I could hardly advise one as extensively in the business as yourself, to change, if only so slight a change is contemplated. In my experience I find even the Langstroth hive too deep. Surely the reversing principle is of most value to the deepest frames, yet I know of no frame so shallow but that I should desire to reverse it at times. The deeper your frames the greater the necessity for constant reversing. For myself I should abandon a hive of the dimensions of yours, but your experience may teach you differently; and were I only going to alter the hive, I should not change the size of the frame, but simply make all new ones reversible. —James Heddon.]

Winter Packing. — R. L. Moore, Boonville,⊙ Mo., on Aug. 13, 1885, writes:

I send a sample of a plant which lately has made its appearance here, and has spread rapidly. The bees swarm on it early in the morning and late in the evening. It blooms from the middle of July until September. I am of the opinion it is the spider plant. I enjoy every moment I get to work with them, unless it is when one stabs me. I succeeded finely last winter, while many of my neighbors came near losing all. I prepare them thus: I have a house 7 feet wide by 40 feet long; doors set in front so that I can take all out. The house faces south. I first get a dry goods box and fit it down over the hive so there is 3 inches or more space all around. Then I take out 2 or 3 of the lightest frames and cut a hole about one inch in diameter one-third from the top of every frame left in the hive; draw up the division-board and fill behind it with chaff; also fill between the box and hive with chaff. I then separated the frames so that they are all from ⅛ to ¼ of an inch apart at the top with slats in, so the air can pass up freely. Then I take a gunny-sack and make a chaff cushion 6 or inches thick and put over the frames. I put the cover on the box and let them take care of themselves, which they did well last winter. It is considerable trouble, but in the bee-business I find, as well as any other kind of work, that "there is no excellence without great labor." Bees have not done much here this summer, but are gathering honey now. I think we shall have a big fall yield, from present prospects.

[It is cleome, called by some the Rocky Mountain bee-plant.—Ed.]

Crop Almost a Failure. — Joshua Bull, Seymour,⊶ Wis., on Aug. 13, 1885, writes:

The honey crop is almost a failure in this vicinity. Bees did fairly well through fruit-bloom, and white clover yielded nectar quite plentifully from June 15 to July 6, but on July 7 it seemed suddenly to cease. Basswood bloomed profusely from July 15 to the 25th, but the most of this time was very rainy; yet we had two or three fine days, and I visited some trees several times that stand within 100 rods of my apiary. The bloom was abundant, but not a bee could I see or hear, except one bumble-bee which was buzzing mournfully around, solitary and alone. At this date there are several acres of buckwheat in full bloom within one mile, and although the bees make considerable stir, yet they do not seem to get much honey. Goldenrod was making a fair show for fall bloom, but alas! the grasshoppers are eating all the buds and blossoms off from that. From the present prospects it appears as though we might have a good opportunity to try the virtue of sugar for wintering our bees next winter.

Some Queries.—A. J. Duncan, Hartford,♀ Iowa, on Aug. 11, 1885, writes:

I lost all my bees (38 colonies) last winter. I packed them out-of-doors in the most approved way I know of; that was, by setting them in rows, side by side, facing south, boarding up tightly behind and in front, tramping in straw, 18 inches thick behind and 10 inches in front; putting sticks across the frames and cloths over the sticks, filling the upper story with dry forest leaves, covering all over with straw, and a wide board in front, to keep out the cold winds and snow. Bees in cellars fared but little better. Not over 5 per cent. (and perhaps not over 3 per cent.) of the bees wintered in this township. There has been the usual amount of absconding swarms (some say more); two took possession of two of my empty hives, three of one neighbor's, and one of another neighbor's. Where did they come from? There has been some discussion in the Bee Journal whether bees will winter better in trees than in modern hives. This is a timbered section, having one of the largest groves in the State, being about 20 miles long and from 3 to 6 miles wide. Is not this circumstantial evidence that bees do winter best in trees? I will take the hint and act differently hereafter.

Bee-Keeping in Alabama.—W. E. Freeman, Olustee Creek,⊸ Ala., on Aug. 17, 1885, says:

Apiculture seems to be growing immensely in Alabama at this time. Bee-keepers' societies and clubs are springing up; movable frames are slowly coming into use; one and two-story hives are being discussed, and many other subjects of importance. Bees have been doing well since April 1. Many colonies perished in February and March, leaving the frames in the hive full of sealed brood, larvæ, etc. We anticipate a heavy crop from the fall bloom, should the weather prove propitious. We bee-keepers of Alabama think that we have one of the best bee-countries upon the face of the globe; all that our people lack is to be fully aroused to the importance of so small an insect as the honey-bee—and we are waking up at last. We have organized an association for bee-keepers, known as the "Palsalaga Bee-Keepers' Society." It meets monthly at some member's apiary or residence. We have held two meetings since the organization was perfected, and we expect our meetings to grow more and more in interest.

Good Season for Increase.—J. J. Martin, North Manchester,♂ Ind., on Aug. 19, 1885, says:

A good season is reported from all bee-keepers in this immediate neighborhood. It has been especially good for those working their bees for increase, and that has been the principal object here, as nearly all bees were destroyed by the extreme cold of the past winter. No honey of any account has been gathered during the past three weeks, but all look for a good fall honey-flow from goldenrod, buckwheat, etc.

Northern Michigan Honey.—L. Reed, of Orono,♂ Mich., has sent us a sample of his honey, and on Aug. 19, 1885, wrote as follows:

I have sent you a sample of our Northern Michigan honey. How does it compare with the honey of Illinois and other States farther South? The honey season is over, and we have had a splendid yield. Bees are gathering some honey from buckwheat and other fall flowers. Some colonies are killing their drones. I have lost only one young queen this season, and then I gave the colony a laying queen in time.

[The honey is very fine, and will compare favorably, both in color and flavor, with that produced in the best honey-producing locations of the Continent. Northern Michigan is, we believe, almost unequalled for its honey-producing flowers.—Ed.]

A Great Country for Bees.—B. W. Lawton, Viola,♀ Wis., writes:

I am one of a thousand bee-keepers in the Kickapoo woods that are liable to hear complaints similar to the one made against Mr. Freeborn. This is a great country for bees; we have both wild and tame bees, and an abundance of basswood timber, white clover, soft and hard maples, and all kinds of wild flowers and wild fruit trees. This year I can stand on a bluff and count hundreds of acres of buckwheat sown where our little honey-gatherers are securing their harvest. We all should join in heart and hand and have our welfare protected; and if $1.25 is not enough, I will double that amount.

Cone-Flower.—Chas. Harrold, Hamburg,♀ Iowa, on Aug. 15, 1885, writes:

Please give me the name of the flower I send you. It is a good bee-plant with us, the bees getting both honey and pollen from it. It grows on the low lands and on creek-bottoms in the timber land. It usually grows about 6 feet high, and somewhat resembles the sun-flower. Bees are doing well here this season.

[It is called the "cone-flower"—blooms in August, and yields considerable honey. Ed.]

Poisoning Bees.—W. A. Pryal, North Temescal,⊸ Calif., on Aug. 14, 1885, says:

Of late I have taken some interest in the bee-poisoning "business," and I have just read Mr. Bray's letter on page 491. I have heard of several such cases this year. Here is one from a letter by a Ventura county apiarist: "I have an apiary in the foot-hills, and not far off are some orchardists. One fruit-raiser says that the bees destroy his fruit, and they must go. I felt easy until lately, as there are more bee-keepers about here than there are fruit men, and this particular fruit-grower I complain of would fare poorly at law against us bee-keepers. My uneasiness arises from having heard that our bees are to be killed by the wholesale, by setting baker's yeast for them. It is said that yeast is sure death to bees; how is it? It seems hard to be at the mercy of belligerent horticulturists. What are we to do?"

Bees Lying Out.—2—F. S, Elder & Bro., (67—80), Lake Village,⟜ Ark., on Aug. 16, 1885, write:

On page 508, Mr. C. H. Dibbern remarked that his bees laid out so much while the mercury was up to 90°, and asks how to prevent them from doing so. The following is what we did to keep our bees in when the mercury was up to 94°: Nearly all of our bees are in Blanton-Simplicity hives, and the fronts of them were covered all over with bees. We just took the covers off and laid the mat back about 4 inches, and put the cover back, letting the cleet on the back end of the cover rest on the top of the hive, and we have not seen any more bees lying out since. Bees are doing well in this locality this season.

Second-Swarms, etc.—Chas. Mitchell, Molesworth, Ont., on Aug. 17, 1885, says:

Every fifth colony hived on the Heddon-plan has cast a second-swarm this year. But much the greatest proportion was from colonies on deep frames, as I had only one second-swarm from those on shallow frames. Can any one account for this, as they all had plenty of room? Also 2 colonies that I sold last fall were wintered in a snow-bank, and have increased to 6; each of the old colonies having swarmed twice. This has been a poor honey season. Basswood was a failure, though it bloomed well.

Queen-Cells, Feeding, etc.—A lady apiarist asks the following questions:

1. Do strong colonies, with plenty of sections, rear queen-cells and swarm during the month of August?

2. Does feeding bees make them lazy? I have been feeding three of my colonies for four weeks, and they seem to depend upon this. They bring in plenty of pollen, but do not have a great deal of brood, yet they seem unable to store any honey.

3. I have a colony of bees that on each afternoon mass themselves upon the outside of the hive. They had two frames of comb to finish and fill; thinking to induce them to go inside, I put on a tier of sections with starters. They do not mass quite so badly as they did at first, but more than they should. They are in the same location that they were in last year, and where they worked the best of any colony I had. Can you give a reason why they do this?

[1. Much depends upon the weather and secretion of nectar. There are other conditions, some of which are not wholly understood, that induce the swarming fever in August.

2. No.

3. As you describe it, doubtless you are now passing through a honey-dearth, one that did not occur (at least as complete) last season. With plenty of room and shade, your bees would never "mass" upon the outside of the hive, if there was nectar in the flowers.—James Heddon.]

◆

To give away a copy of "Honey as Food and Medicine" to every one who buys a package of honey, will sell almost any quantity of it.

Convention Notices.

☞ The Southern Wisconsin Bee-Keepers' Association will meet at the Court House in Janesville, Tuesday, Aug. 25, 1885, at 10 a. m.
JOHN C. LYNCH, *Sec.*

☞ The Des Moines County, Iowa, Bee-Keepers' Association, will hold its fall meeting at the Court House in Burlington, on Aug. 25, 1885, at 10 a. m. All persons interested in bee-culture are invited to attend.
JOHN NAU, *Sec.*

☞ The Linwood Bee-Keepers' Association will be held at Rock Elm Centre, Wis., on Tuesday, Sept. 1st, at 1 o'clock p. m., in Condit's Hall. All interested are cordially invited to attend, and make the meeting a profitable one.
B. J. THOMPSON, *Sec.*

☞ The Western N. Y. and Northern Pa. Bee-Keepers' Association will meet at Salamanca, N. Y., in Odd Fellows' Hall, on Sept. 1 and 2, 1885.
A. D. JACOBS, *Sec.*

☞ The next meeting of the Northwestern Illinois and Southwestern Wisconsin Bee-Keepers' Association will be held at Rock City, Ills., on Aug. 25, 1885.
J. STEWART, *Sec.*

☞ Owing to a very heavy rain-storm during the forenoon of July 18, the meeting of the Marshall County Bee-Keepers' Association was deferred until Saturday, Aug. 29, 1885, at 10.30 a. m., in the Court House at Marshalltown, Iowa. Subjects: "Fall Management of Bees" and "Care and Sale of Honey." All bee-keepers are invited. It will be a time of rest from other labor, and we hope to have a good meeting.
J. W. SANDERS, *Sec.*

☞ The 4th semi-annual meeting of the Wabash County Bee-Keepers' Association will be held at North Manchester, Ind., on Oct. 10, 1885, in the G. A. R. Hall, Union Block. First session at 10 a. m. All bee-keepers are cordially invited to be present.
J. J. MARTIN, *Sec.*

☞ The next meeting of the "Patsalaga Bee-Keepers' Society" will be held at the residence of the President, Mr. J. R. McLendon, at Ramer, Ala., on Sept. 10, 1885. It is hoped that the membership will be largely increased at this meeting, and that all who can will attend.
M. G. RUSHTON, *Sec.*

☞ The 3rd annual convention of the Iowa State Bee-Keepers' Association will be held on the Fair Grounds at DesMoines, Iowa, during the Fair week. The first meeting will held at the bee-keepers' tent, on Tuesday, Sept. 8, at 2 p. m.; also there will be a meeting held on each succeeding night, or as often as the convention may desire. Those who wish to do so may bring blankets and make the tent their head-quarters, as meals can be procured on the Grounds at reasonable rates. The State Agricultural Society offers liberal premiums on honey, beeswax, etc. Many prominent apiarists are expected to be present. All interested in the production and sale of honey should not fail to attend.
WM. GOOS, *Sec.*

◆

Bee-Keepers' Badges at Fairs.

We have some **ELEGANT RIBBON BADGES,** having a rosette and gold Bee, for bee-keepers' use at Fairs, Conventions, etc. Price 50 cents each, by mail, postpaid.

THOMAS G. NEWMAN & SON,
923 & 925 West Madison St., CHICAGO, ILL.

WEEKLY EDITION
OF THE
AMERICAN

ESTABLISHED IN 1861
OLDEST BEE PAPER IN AMERICA

BEE JOURNAL

PUBLISHED BY
THOMAS G. NEWMAN & SON,
PROPRIETORS,
923 & 925 WEST MADISON ST., CHICAGO, ILL.
Weekly, $2 a year; Monthly, 50 cents.

ALFRED H. NEWMAN,
BUSINESS MANAGER.

Special Notices.

Make all Money Orders and Postal Notes payable at Chicago, Ills.—Some country postmasters insist on making such payable at some sub-station of Chicago, but we want them drawn on the *main office.*

* * *

☞ If your wrapper-label reads Aug. 85, please remember that your subscription runs out with this month. Renew at once, so as not to lose any numbers.

* * *

To Correspondents.—It would save us much trouble, if all would be particular to give their P. O. address and name, when writing to this office. We have several letters (some inclosing money) that have no name; many others having no Post-Office, County or State. Also, if you live near one post-office and get your mail at another, be sure to give the address we have on our list.

* * *

☞ For two subscribers for the Weekly BEE JOURNAL (or 8 for the Monthly) for one year, we will present a Pocket Dictionary, and send it by mail, postpaid.

* * *

☞ **Sample Copies** of the BEE JOURNAL will be sent FREE upon application. Any one intending to get up a club can have sample copies sent to the persons they desire to interview by sending the names to this office, or we will send them all to the agent.

* * *

☞ We want one number each of the BEE JOURNAL of August, 1866—February, 1867. Any one having them to spare will please send a Postal Card. We will pay 50 cents for one copy of each of the two numbers.

* * *

☞ **Preserve your papers** for reference If you have not got a Binder we will mail you one for 75 cents, or you can have one FREE if you will send us 3 new yearly subscriptions for the BEE JOURNAL.

* * *

☞ Our rates for two or more copies of the book, "Bees and Honey," may be found on the Book List on the second page of this paper. Also wholesale rates on all books where they are purchased "to sell again."

CLUBBING LIST.

We supply the **American Bee Journal** one year, and any of the following publications, at the prices quoted in the last column of figures. The first column gives the regular price of both. All postage prepaid.

	Price of both.	*Club*
The Weekly Bee Journal	2 00	
and Gleanings in Bee-Culture	3 00	2 75
Bee-Keepers' Magazine	3 00	2 75
Bee-Keepers' Guide	2 50	2 35
Kansas Bee-Keeper	3 00	2 75
The Apiculturist	3 00	2 90
Canadian Bee-Paper	3 00	2 75
The 7 above-named papers	7 50	6 75

* * *

☞ All who intend to be systematic in their work in the apiary, should get a copy of the Apiary Register and commence to use it. The prices are as follows:

For 50 colonies (120 pages)	$1 00
" 100 colonies (220 pages)	1 25
" 200 colonies (420 pages)	1 50

The larger ones can be used for a few colonies, give room for an increase of numbers, and still keep the record all together in one book, and are therefore the most desirable.

* * *

The National Bee-Keepers' Union.

CONSTITUTION.

ARTICLE I.—This organization shall be known as the "National Bee-Keepers' Union," and shall meet annually, or as often as necessity may require.

ARTICLE II.—Its object shall be to protect the interests of bee-keepers, and to defend their rights.

ARTICLE III.—The officers of this Union shall consist of a President, five Vice-Presidents, and a General Manager (who shall also be the Secretary and Treasurer), whose duties shall be those usually performed by such officers. They shall be elected by ballot, and hold their several offices for one year or until their successors are elected and installed; blank ballots for this purpose to be mailed to every member by the General Manager.

ARTICLE IV.—The officers shall constitute an Advisory Board, which shall determine what action shall be taken by this Union, upon the application of any bee-keepers for defense, and cause such extra assessments to be made upon all the members as may become necessary for their defense.

ARTICLE V.—Any person may become a member by paying to the General Manager an Entrance Fee of ONE DOLLAR to the Defense Fund, and an annual fee of 25 cents, for which he shall receive a printed receipt making him a member of this Union, entitled to all its rights and benefits. The annual fee shall be due on the first day of July in each year, and MUST be paid within 30 days in order to retain membership in this Union.

ARTICLE VI.—Donations of any amount may be made at any time to the Defense Fund, in addition to the entrance and membership fees and the regular assessments made upon the members by the Advisory Board.

ARTICLE VII.—The Defense Fund shall be used for no other purpose than to defend and protect bee-keepers in their rights, after such cases are approved by the Advisory Board, and shall only be subjected to Drafts regularly made in writing by the Advisory Board.

ARTICLE VIII.—The annual fees paid by the members shall become a general fund, from which shall be paid the legitimate expenses of this Union, such as printing, postage, clerk-hire, etc.

ARTICLE IX.—Meetings of this Union shall be held at such times and places as shall be designated by the Advisory Board, or upon the written requisition of ten members.

ARTICLE X.—This constitution may be amended by a majority vote of all the members at any time.

LIST OF MEMBERS AT THIS DATE:

Addenbrooke, W.,
Allen, Ransom,
Anderson, J. Lee,
Anderson, Wm.,
Angell, C. S.,
Baldwin, B. T.,
Ball, Miss J. M.
Barnes, Wm. M.,
Baxter, E. J.,
Bean, C. M. & W. L.
Bernschein, Ernst,
Besse, H., M. D.,
Bitzer, Wm.,
Bohn, Gustav,
Bray, Moses,
Brickey, Peter,
Buchanan, J. W. & Bro.
Burrell, H. D.,
Burton, L.,
Carder, A.,
Chapman, J.,
Cheney, H. H.,
Christian, P. J.
Clarke, Rev. W. F.,
Connley, John T.,
Cook, Prof. A. J.,
Cripe, Henry,
Dadant, Chas.,
Dadant, C. P.,
Darby, M. E.,
Dayton, C. W.,
Decker, A. A.,
Demaree, G. W.,
Dibbern, C. H. & Son,
Dickason, T. B.,
Dittmer, Gus,
Dodge, U. E.,
Doolittle, G. M.,
Downs, Robert,
Drane, E.,
Dunham, P.,
Dunn, John,
Eaglesfield, E. C.,
Eastwood, L.,
Elwood, Sr., W. R.,
Feathers, Harvey,
Flanagan, E. T.,
England, P. J.,
Follett, Charles,
Forbes, W. E.,
France, E. & Son,
Freeborn, S. I.,
Fulton, W. K.,
Funk, H. W.,
Furness, Dwight,
Gander, A. M.,
Goodrich, A. S.,
Green, Charles H.,
Greening, C. F.,
Gresh, Abel,
Grimm, Christopher,
Harlens, J. G.,
Harrison, S. H.,
Haskin, A. S., M. D.,
Hatch, C. A.,
Havens, Reuben,
Hayhurst, E. M.,
Heaton, J. N.,
Heddon, James,
Hensley, J. P.,
Hettel, M.,
Hill, A. G.,
Hills, Mrs. H.,
Hilton, George E.,
Hoke, Abe,
Hollingsworth, C. M.,
Howard, J. B.,
Hoyle, George H.,
Huse, Wm. H.,
Hutchinson, W. Z.,
Hyne, James M.,
Isham, H. B.,
Jones, George W.,
King, D. N.,
King, T. Frank,
Koeppen, August
Langstroth, Rev. L. L.,
Lanning, John,
Lawton, B. W.
Le Roy, J. W.,
Lindsly, L.
Ludkey, Charles,
Ludloff, K.,
Maddox, W. T.,
Mahin, Rev. M.
Mallory, S. H.,
Maaum, A. E.,
Marden, Henry,
Margrave, J. W.,
Mason, Jas. B.,
Mattoon, Jas.,
McConnell, James,
McCormick, Emery,
McGee, Charles,
McLees, S.,
McNay, Frank,
McNeill, James,
Millard, D.,
Miller, B. J. & Co.,
Miller, Dr. C. C.,
Miller, Henry,
Mills, L. D.,
Minnich, F.,
Minor, N. L.,
Morse, William,
Math-Rasmussen, Wm.,
Nelson, James A.,
Newman, Alfred H.,
Newman, S. M.,
Newman, Thomas G.
Nipe, James,
Nutt, W. C.,
Parker, D. G.,
Pennoyer, L. A.,
Peters, Geo. B.,
Phelps, N. T.,
Pond, Jr., J. E.,
Powell, E. W.,
Pray, G. L.,
Rainey, Jarvis,
Reed, L.,
Rey, John,
Reynolds, M. G.,
Roberts, Jesse H.,
Root, A. I.,
Rowe, David,
Roye, Burr,
Schaper, E. F.,
Schearing, Paul,
Seabright, L. C.,
Secor, Eugene,
Shapley, D. L.,
Shearman, J. O.,
Shirley, W. H.,
Smith, George,
Snell, F. A.,
Spady, Jno.,
Spencer, M. L.,
Stearns, J. R.,
Stephenson, H. W.,
Stephens, W. B.,
Stewart, W. H.,
Stocker, Wm. S.
Stolley, Wm.,
Storer, E. M.,
Talbert, M.,
Taylor, George,
Thatcher, Will.,
Theilmann, C.,
Thompson, Geo. M.,
Tinker, Dr. G. L.,
Tongue, L. N.,
Travis, F. W.,
Travis, I. A.,
Trimberger, John,
Turner, T. E.,
Tyner, Alonzo,
Vanhouten, C. W.,
Viallon, P. L.,
Walton, Col. R.,
Webster, H. S.,
Weeks, C.,
Wendt, Henry,
Whitney, W. V.,
Wicberts, A.,
Wilkins, Miss Lucy A.,
Wolcott, Wm. C.,
Wright, W. D.,
Zwiener H. L.

FOR SALE OR EXCHANGE. Improved Stock Farm 90 miles from Chicago. Will sell cheap for cash or exchange for stock of goods—or western land. Address,
30A6t **T. J. CAIRNS & CO.**, Janesville, Wis.

60 New Style, Embossed Hidden Name and Chromo Visiting Cards, no 2 alike, name on, 10c., 13 packs $1; warranted best sold. Sample book, 4c. L. JONES & CO., Nassau, N. Y.
11A1y

BEESWAX.

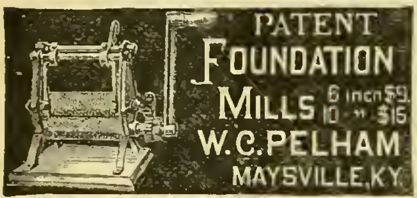
We pay **20c.** per lb., delivered here, for yellow Beeswax. To avoid mistakes, the shipper's name should always be on each package.

THOS. G. NEWMAN & SON,
923 & 925 West Madison Street, CHICAGO, ILL.

RED CLOVER QUEENS

by return mail.—I am now up with my orders, and can send Queens by **return mail.** My Queens are almost without an exception purely mated. My bees have worked just thick on red clover, from the time it bloomed until the present time.

30ABtf **J. T. WILSON,** Nicholasville, Ky.



37ABly

SYRIO-ALBINO QUEENS.

APIS AMERICANA.—Orders for Queens of the beautiful **SYRIO-ALBINOS**, will now be received. Reared by my **new method,** all are large and fine and perfect. We have made a great discovery in Queen-Rearing, and hereby challenge the production (by natural swarming or otherwise) of Queens that will excel ours in any valuable quality. Isolated 3 miles from other bees. First come, first served. Send for circulars.

DR. G. L. TINKER,
1Atf New Philadelphia, Ohio.

$200,000 *in presents given away.* Send us 5 cents postage, and by mail you will get *free* a package of goods of large value, that will start you in work that will at once bring you in money faster than anything else in America. All about the $200,000 in presents with each box. Agents wanted everywhere, of either sex, of all ages, for all the time, or spare time only, to work for us at their own homes. Fortunes for all workers absolutely assured. Don't delay. H. HALLETT & CO.
51A1y Portland, Maine.

Muth's Honey Extractor,

Square Glass Honey Jars, Tin Buckets,
Langstroth Bee-Hives, Honey-Sections, etc.

Apply to **CHAS. F. MUTH,**
Freeman & Central Ave., - CINCINNATI, O.

☞ Send 10c. for Practical Hints to Bee-Keepers.

Bees and Queens

HAVING purchased all the black bees within a radius of 6 miles, I now claim the LARGEST ITALIAN APIARY and best location for rearing **FINE QUEENS** in the State. I will continue to sell warranted Queens at the low price of **75** cents each. Extra selected tested (1885 rearing) **$1.50** each. Three L-frame Nuclei, every frame filled with brood, with selected tested Queen, **$3** each.

Address JAS. WOOD, North Prescott, Mass.
29A9t

NEW ONE-POUND HONEY PAIL.

THIS new size of our Tapering Honey Pails is of uniform design with the other sizes, having the top edge turned over, and has a bail or handle,—making it very convenient to carry. It is well-made and, when filled with honey, makes a novel and attractive small package, that can be sold for 20 cents or less. Many consumers will buy it in order to give the children a handsome toy pail.

THOS. G. NEWMAN & SON,
923 & 925 West Madison St., CHICAGO, ILL.

Dadant's Foundation Factory, wholesale and retail. See Advertisement in another column.

Given's Foundation Press

THE GIVEN PRESS stands in the **front rank** for manufacturing **FOUNDATION in Wired Frames**, as well as foundation for **SECTIONS.** Without a dissenting voice, all of our customers affirm its superiority. Send for Circulars and Samples.

D. S. GIVEN & CO.,
1ABtf HOOPESTON, Vermillion Co., ILL.

HUTCHINSON'S ADVERTISEMENT

WE ARE now making a specialty of rearing fine **ITALIAN QUEENS.** All Queens are bred from the purest and best of mothers, and the cells built in full colonies. We have one of A. I. Root's very best, selected, tested, imported Queens; also quite a number of very superior home-bred Queens from the apiary of "Cyula Linswik;" besides this, we have our own original stock, which was built up from Dadant imported stock, and from Queens obtained from several of our best breeders. We are not trying to see how cheaply we can rear Queens, but what **GOOD** ones we can furnish. No Queens will be sent out that would not be used in the home apiary. Single Queen, $1.00; six for $5.00; twelve or more, 75c. each. Tested Queens, $2.00 each. Full colonies, $5.00 each. Make money orders payable at Flint. Address

W. Z. HUTCHINSON,
30Atf Rogersville, Genesee Co., Mich.

THE INVERTIBLE HIVE!

INVERTIBLE FRAMES,
Invertible Surplus Honey Cases,
Entrance Feeders, Top and Bottom Feeders,
Hive-Lifting Device, Honey Extractors,
Wax Extractors, Comb Foundation, etc.

☞ My new Illustrated Catalogue is now ready, and will be mailed to all who may apply for it. Address,

J. M. SHUCK,
DES MOINES, IOWA.
10A1y

WIN more money than at anything else by taking an agency for the best selling book out. Beginners succeed grandly. None fail. Terms free. HALLETT BOOK CO.
51A1y Portland, Maine.

Bee-keepers' Supplies,

Standard Langstroth,

Quinby Standing-Frame,

And all other kinds of **Hives,**

MADE TO ORDER,

Quinby Smoker a specialty.

I shall supply anything you need in the Apiary. Send for Illustrated Price List.

W. E. CLARK, successor to L. C. Root,
7A1y ORISKANY, Oneida County, N. Y.

Dadant's Foundation Factory, wholesale and retail. See Advertisement in another column.

QUEENS by Return Mail!

AT THE FOLLOWING LOW RATES:

Bred from my **Best Strains** of **Italians** and **Albinos!**

Untested Queens		each	$ 1 00
"	"	½ doz.	5 50
"	"	1 "	10 00
Warranted	"	each	1 10
"	"	½ doz.	6 00
"	"	1 "	11 00
Tested	"	each	2 00
Selected Tested Queens		"	2 50

Descriptive Price-List free. Address all orders to

WM. W. CARY, - Coleraine, Mass.,
(Successors to Wm. W. Cary & Son.)

N. B.—On a single order for 50 Queens, we will give **10 per cent. discount** from the above list. 29Atf

A PRIZE. Send six cents for postage, and receive free, a costly box of goods which will help you to more money right away than anything else in this world. All, of either sex, succeed from first hour. The broad road to fortune opens before the workers, absolutely sure. At once address TRUE & CO., Augusta, Maine.
51A1y

Dadant's Foundation Factory, wholesale and retail. See Advertisement in another column.

Bee-Hives, Sections & Honey-Boxes

GREAT REDUCTION.

DEALERS and large consumers will find it to their interest to write us for special stocking-up prices—either for present or future delivery.

G. B. LEWIS & CO.,
34ABtf WATERTOWN, WIS.

30 COLONIES of BEES

for one-hundred dollars, in American hives; or **$3.50** each, singly. They are strong in bees and honey. Syrians and Italians. Safe arrival guaranteed.
33A4t **FAYETTE LEE, Cokato, Minn.**

FLAT-BOTTOM
COMB FOUNDATION,

high side-walls, 4 to 16 square feet to the pound. Circular and samples free.

J. VAN DEUSEN & SONS,
Sole Manufacturers,
Sprout Brook, Mont. Co., N. Y.

HELP for working people. Send 10 cents postage, and we will mail you *free*, a royal, valuable sample box of goods that will put you in the way of making more money in a few days than you ever thought possible at any business. Capital not required. You can live at home and work in spare time only, or all the time. All of both sexes, of all ages, grandly successful. 50 cents to $5 easily earned every evening. That all who want work may test the business, we make this unparalleled offer: To all who are not well satisfied we will send $1 to pay for the trouble of writing us. Full particulars, directions, etc., sent free. Immense pay absolutely sure for all who start at once Don't delay. Address STINSON & CO.
51A1y Portland, Maine.

Fruit-Farm & Apiary

FOR SALE CHEAP!

96 ACRES, hill-land, ⅓ well-stocked with apples, peaches, pears, plums, quinces, grapes, and small fruit, in fine bearing condition. The remainder in pasture, grass, grain, etc. Apiary contains **140 ITALIAN COLONIES** in Langstroth hives. Bee-house and all modern appliances for apiculture, in as good location for bees and honey as can be found. Good 10-room house, beautifully located, commanding a view of the city, river and surrounding country. New barn and out-buildings, cistern, never-failing springs, etc. Reason for selling—age and ill-health.

33A6t **S. A. STILLMAN, LOUISIANA, MO.**

Dadant's Foundation Factory, wholesale and retail. See Advertisement in another column

WEEKLY EDITION
OF THE
AMERICAN
ESTABLISHED IN 1861
OLDEST BEE PAPER IN AMERICA
BEE JOURNAL

THOMAS G. NEWMAN,
EDITOR.

Vol. XXI. Sept. 2, 1885. No. 35.

APICULTURAL NEWS ITEMS.

EDITORIAL AND SELECTED.

"Let us then uniting bury
All our idle feuds in dust ;
And to future conflicts carry,
Mutual faith and common trust."

Hum, sweet hum—That of the honey-bee.

Grief counts the seconds ; happiness forgets the hours.

If a boy wishes to ascertain whether bees see or not—let him put his finger into the entrance of the hive.

"**He** is not worthy of the honey-comb, that shuns the hive because the bees have stung."—*Shakespeare.*

What is the difference between a bee and a donkey ? One gets all the honey, the other gets all the whacks (wax).

Bee-keepers should take good care of their basswood trees, as well as set out more for the bees. They are valuable for honey, as well as good for shade.

In the sheep-bees lawsuit we fancy Mr. Powers will find it difficult to *identify* Mr. Freeborn's bees, or to prove by eye-witnesses that the bees made an aggressive attack on the sheep and injured them.

The Michigan State Fair will be held at Kalamazoo on Sept. 14-18, 1885. The premiums in the Apiarian Department amount to $300. The premium list (containing 112 pages) will be sent upon application to the Secretary, J. C. Sterling, Monroe, Mich.

The Tri-State Fair will be held at Toledo, O., from Sept. 7 to 12, 1885. Dr. A. B. Mason, of Wagon Works, O., is superintendent of the apiarian department, where $212 are offered as Premiums. Send to Dr. Mason for Premium List.

Mr. A. J. King has severed his connection with the *Bee-Keepers' Magazine.* It will be published hereafter by Messrs. John Aspinwall and W. B. Treadwell. Both Mr. King and the new publishers have our best wishes. Mr. King has been in "the editorial harness" for 12 years, and now with failing health seeks rest, for recuperation.

The outlook, although not as bright as it might be, owing to the light crop of honey produced this year, has fair promises for the future. Colonies generally are strong, and next spring will probably find them in good condition for a profitable summer's work.

The Shelby County Fair is to be held at Harlan, Iowa, from Sept. 22 to 25, 1885. As it offers the astonishingly large sum of one dollar as a premium in the Apiarian Department, the display will, no doubt, be proportionate to the liberality of the Fair managers ! !

The Fairs are now being held all over the country, and any one attending such and wishing to get up a club for the BEE JOURNAL will be furnished with sample copies *free.* Send for them a week or ten days before they are needed, so as to be *sure* of having them in time. We will also send a colored Poster of the BEE JOURNAL, when requested, to put up over the exhibits.

The White Sulphur Springs in Frederick County, Va., is represented on our desk by its illustrated 24-page catalogue. It is kept by Mr. E. C. Jordan, one of the principal bee-keepers of Virginia, and we notice that honey is among the attractions of the dining-room.

When Marketing Extracted Honey, it is a sad *blunder* to use barrels holding from 300 to 500 pounds—they are too large to be desirable for the trade, too bulky to be handled with care in transportation, and too dear to be lucrative to the producer, for honey put up in such large barrels is subject to a discount of one cent per pound, because of the difficulty in disposing of it without repacking and dividing into smaller lots.

As winter approaches, mice are almost sure to infest the hives if openings sufficient are left for their entrance. Wax is a non-conductor of heat, and besides enjoying the heat generated by the bees, which answers the purpose to them of a base-burner, the honey and bee-bread furnishes food, and the comb fine bedding. Care should be taken that no entrance is left large enough for the mice to enter, else much of the comb and honey may be destroyed.—*Indiana Farmer.*

A lady bee-keeper has gone. We regret to learn from Mr. L. R. Jackson, Urmeyville, Ind., that he has lost his devoted wife. On Aug, 27, he wrote as follows : "My wife died on Aug. 25, after a few hours of pain. She had kept 30 colonies of bees of her own, and managed them well and profitably. She was a close reader of the BEE JOURNAL, and argued points well. She and myself lost all of our bees last winter, but we were getting a good start again ; now I am alone, and the loss is severe."

A bee-keepers' picnic was held at George's Hill, Philadelphia, Pa., on Friday, Aug. 21. At 11 a. m. they were called to order by President H. Townsend, and talked on several interesting topics. Sec. Hahman read some extracts from the BEE JOURNAL, Mr. Stout exhibited some finely marked Italian bees, and Mr. Arthur Todd, taking a young bee between his finger and thumb, exhibited its golden bands. The picnic ended about 6 p. m.

Comb honey, soon after removal from the hives, should be carefully examined ; if any moth-worms are discovered, pile the honey up in a closed room, and fumigate it with sulphur. This should be repeated as often as any worms are discovered.

When estimating the quantity of honey in a hive, says an exchange, it is best to examine each comb separately. Ascertain by actual weight the amount of honey which a comb of an average thickness will contain, and from that estimate the amount in each hive. Allow for the weight of the combs, especially if old, and also the amount of pollen they may contain. A little practice will soon enable one to judge quite correctly, by simply lifting one comb after another from the hive, as to how much honey they contain. For out-door wintering each hive should contain at least 25 pounds ; for in-door wintering, or where the hives are well protected, 20 lbs. will do.

Extracted honey, if not already sealed by the bees when extracted, should be placed in open vessels and allowed to ripen, before it is put into cans, jars, etc., for the retail trade. If to be sold in barrels or kegs, do not put in the bung, but cover the hole with fine wire-cloth to keep out insects. We have just examined a lot of honey put up in cans before it was ripe, and as it has fermented, it presents a very disagreeable sight—about one-fourth of it is covering the floor ; it looks frothy and tastes sour. All this *waste* is the result of the honey not being properly ripened. We have so often called attention to the necessity of ripening extracted honey, that we are surprised that so a important matter should be neglected.

Correspondents will please take a hint. Do not write any more on subjects that are so stale and "worn out" as are "pollen," "diarrhea," and the like. We are *sick* of them, and believe our readers are also. Give us a rest now, for at least a year.

Another thing : do not think it your duty to "pitch into" every thing that you cannot endorse. If you have some valuable thoughts on such a subject, write them out, leaving others to decide which of the two—you or the other writer—are the nearest to the correct theory. In other words, please do not want so badly to *sting* somebody ! Write out your views, and leave the conclusions or theories of others alone. Give your own thoughts in an *independent way.*

We learn that Mr. M. L. Trester, superintendent of bees and honey at the Nebraska State Fair, to be held at Lincoln, Nebr., on Sept. 11 to 18, has succeeded in having "a bee-yard" enclosed, on the Fair ground. The fence is made partly of boards and partly of screen wire—the wire being just right for visitors to look through to see the bees handled. A premium of $40 is offered for the colonies that will gather the most pounds of honey in 20 days ; and on Aug. 26 quite a number of colonies were weighed in the yard and then sealed ; after locking the gate they are to be left undisturbed until the end of the trial ; then they are to be weighed again. On account of the probability of the Lincoln hotels being crowded, we are informed that Mrs. Trester has, at the request of many friends, consented to keep "open house," for "bee-keepers' headquarters," during the Fair.

QUERIES

WITH

REPLIES by Prominent Apiarists.

Building Brace-Combs.

Query, No. 105.—Suppose a strip ¼-inch thick and the width of the top-bar be put across the frame, leaving a suitable space between the strip and the top-bar; would the bees satisfy their propensity to build brace-combs by putting it in such space, and build none between the top of the frame and the bottom of the one above it? If they would, then why not use such an arrangement instead of a slat honey-board? What thickness of strip and width of space is best?—Maine.

I think it would answer the purpose, but not so well as if there was a break-joint arrangement.—DR. C. C. MILLER.

I am sure I do not know. I see no reason why they might not, yet they will propolize where the frames touch. From two years' experience, I am satisfied that I must have double bee-space between the brood-chamber and sections, and some between the brood-chamber and second-story for extracting. I also want nothing but reversible frames.—PROF. A. J. COOK.

No practical bee-men use a slat honey-board now; they all use a cloth, and only leave enough space between tiers to allow a bee to pass between the comb.—DADANT & SON.

I doubt the utility of such a device. If "Maine" thinks it would be useful, he can easily settle the matter by experimenting on a few hives, using different thicknesses of strips and width of spaces until the right dimensions are secured.—G. M. DOOLITTLE.

The only way to ascertain is to make a test. I apprehend, however, that no satisfactory test could be made, as no 2 colonies would work alike. My experience is that braces are only put where needed to strengthen and support the combs; and I think the strip mentioned above would have no effect whatever.—J. E. POND, JR.

I have had the same thought, and it is no doubt correct that such an arrangement would tend to keep the brace-combs away from the upper receptacles or cover. It would serve much the same purpose that the slat honey-board would, if each slat came directly over the top-bars of the brood-frames; but you would in either case be annoyed with many times more brace-combs than with the honey-board as it is—with its slats exactly breaking joints with the brood-frames below.—JAMES HEDDON.

Just as you state it, I am unable to see any advantage to be gained by such an arrangement. To make the two top-bars of the same width will cover the usual openings between the frames. If the top bars of the frames are made not less than 1⅜ inches wide, so as to fill the whole space between the frames, and are slitted in the centre the full length of the inside of the frame, so as to bring the opening right over the centre of the comb-bar, which is just bee-space below the top-bar, you will get all the advantages that the recess honey-board can give. I have a few frames in use made as I have described them, and I will give them a fair trial. I make the broad top-bars 5-16 of an inch thick, and 1⅜ inches wide. The comb-bar is the same as to thickness, but is only ⅞ of an inch wide. The opening in the centre of the top-bar is ¼-inch. I regard ¼-inch sufficient bee-space for any and all purposes.—G. W. DEMAREE.

◆

Killing off Drones.

Query No. 106.—What could my drones have done that the bees are killing them all off? What is the cause and what will be the result? I have 10 colonies that wintered well in the cellar without the loss of a colony, and which are now strong in bees and brood, and are working well on white clover. They have cast only two swarms. They are making a business of killing drones, as much so as if it were in September. The weather is very bad for them, as it is cold with terrible rains and winds, and variations of 30 degrees in the temperature.—E. J. C.

The question answers itself. The very fact that "the weather is bad for them," is reason sufficient for them to kill off the drones. The time of itself makes no difference to bees, but the weather affects them greatly. I have had a general slaughter of drones right in the midst of the white clover harvest, owing to 3 or 4 days of cold, rainy weather.—J. E. POND, JR.

I think that your bees are passing through a short honey-dearth, added to the fact that they have already increased, they are contemplating no further use for the drones. Unless you are extensively engaged in queen-rearing, I think the "result" will be favorable.—JAMES HEDDON.

The very bad weather is the probable explanation.—W. Z. HUTCHINSON.

The bees are killing off their drones because of the cold weather and rains which you mention. It is quite evident that their reason for doing this is "short crop."—DADANT & SON.

Your drones are not "sinners above other" drones, in that, that they are being killed off. You give the true cause of their persecution in your concluding remarks. Continued bad weather discourages the bees, and makes increase out of the question with them, and they proceed to drive out the drones as useless consumers. Nevertheless, nature will not make the mistake of destroying the whole of them. The season has been an unfavorable one here, and hardly a day has passed that the drones were not persecuted, and yet I still have drones. The season has been so bad that even nuclei with virgin queens were cross with their drones.—G. W. DEMAREE.

The failure of flowers, or nectar secretion and unfavorable weather often cause colonies to kill their drones as early as May and June, as well as later on. At such times, if drones are just hatching, they are dragged out at once.—DR. G. L. TINKER.

The last half of the question answers the first part. Cold and wet gives no honey-flow, which caused the bees to destroy drones. The phrase, "working well on white clover," does not correspond well with "only two swarms that are killing drones" and "cold with terrible rains and winds."—G. M. DOOLITTLE.

Although appearing to work busily, they are probably not storing sufficiently to afford the presence of these "gentlemen of leisure."—DR. C. C. MILLER.

◆

A "Singing" Queen.

Query, No. 107.—What is the cause of my Italian queen singing like a laying hen? She sings while moving among the bees as well as when still, and so loudly that she can be heard 5 feet away with the hive closed. The day before I heard this strange noise, I had cut out all of the queen-cells, and after doing so, I thought that I had overdone it, as I could not find the queen—having gone through the hive twice, the second time with help to look for her. The next day I resumed my search for her, but before doing so, I stopped to look after a Holy-Land queen that I had introduced into an adjoining hive, when I heard a noise as if a bee was in distress in my supposed queenless colony. Upon opening the hive to see the cause and look for my lost queen, I very soon found her passing among the bees and singing as happily as a lark. It was not a piping noise, but a regular singing like a laying hen. There was not a queen-cell in the hive at this time, I am sure.—W. H. R.

Queens often make this singing noise, called "piping," when alarmed. W. Z. HUTCHINSON.

I have never heard of such a case.—DR. C. C. MILLER.

I could not tell, never having seen or heard of such a case. I have heard caged queens make a noise similar to the one described, but what made this queen "sing" in the hive, I cannot tell.—JAMES HEDDON.

"Piping" queens are not so very rare, that they attract more than passing attention of the experienced apiarist. I opened a nucleus hive the other day to see if the young queen's progeny had begun to hatch, and the queen was "piping" loud and clear. She does not "sing," in my estimation. In my experience such queens are hard to "introduce" on account of liability of being "balled" by the bees. This piping trait in individual queens indicates a cross, impatient disposition.—G. W. DEMAREE.

I suppose that queens, like people, may sing or whistle when they are happy. This one was overjoyed at the disappearance of her rivals.—DR. G. L. TINKER.

I give it up, as I have never heard or seen anything of the kind.—G. M. DOOLITTLE.

The Illinois State Fair will be held in Chicago during the week commencing Monday, Sept. 14, 1885 and promises many attractions.

◆

The St. Louis Fair opens Monday, Oct. 5, and continues for six days. The premium list contains 24 departments, and $73,000 is offered in premiums. A rate of one fare for the round trip has been made by all railroads running within 500 miles of St. Louis. $130 are offered as premiums in the Apiarian Department. Any of our subscribers desiring a copy of the premium list will receive one free, by addressing Festus J. Wade, Sec., 718 Chestnut St., St. Louis, Mo.

CORRESPONDENCE

Explanatory.—The figures BEFORE the names indicate the number of years that the person has kept bees. Those AFTER, show the number of colonies the writer had in the previous spring and fall, or fall and spring, as the time of the year may require.

This mark ⊙ indicates that the apiarist is located near the centre of the State named: ♂ north of the centre; ♀ south; O+ east; +O west; and this ♂ northeast; ⌐O northwest; O¬ southeast; and ♀ southwest of the centre of the State mentioned.

For the American Bee Journal.

Introducing Valuable Queens.

REV. L. L. LANGSTROTH.

The following facts will show what great caution is needed in introducing valuable queens:

On July 22 a queen was removed from a strong colony, and the next day a caged queen was given them. The third day, judging from their quiet motions on the cage, that they were ready to receive her, I arranged to have them liberate her. Upon examining them on July 27, the queen was well circled, but had not begun to lay. The bees were building a number of queen-cells, which I destroyed. On July 28, I destroyed many queen-cells. The queen was well attended, but there were no eggs. On the 29th I destroyed a drone-larva to which they were giving the royal treatment; there were only three eggs. On the 30th I found many eggs laid, but no queen cells.

Now suppose that I had neglected to examine this colony and destroy these queen-cells—the bees would have gone on with them, and in due time the queen I had given them would have led off a swarm, or would have been compelled to fight a rival, or would, for a time at least, have shared her rights with another. Such occurrences are by no means rare. When largely engaged in queen-rearing, they were witnessed many times in my apiary.

Another experience will show more fully how unsafe it is to infer that all will go on right, if only the new queen has been *accepted* by the bees. A queen caged 24 hours was prepared for liberation, and the only comb from which they could rear queens, removed. They acted just as though they were black bees made hopelessly queenless—some running in a distracted manner over the front of the hive, and others taking wing.*

Supposing that the presence of a queen, though caged, would soon reconcile them to the loss of their brood, I left them for a short time. Upon my return the air was filled with robber bees, against which the nucleus made no defense. Covering it with a sheet, and removing it to a new location, the robbers were allowed to escape, and the brood restored, to the great delight of the bees.

Fresh honey was now given them, as the robbers had stolen nearly all that they had. Finding that they defended their stores, they were restored to their old stand. Royal cells were found well under way, next day, but no signs of the queen. Six days later the queen was found destroying the cells of rival queens. She had not laid a single egg! but 12 hours after having her own way, she laid freely. If the colony had been a large one, she might not have been allowed to destroy these queen-cells.

When the introduced queen is lost in this way, the one that supplants her may be black or hybrid, and its owner, ignorant of the real facts, may lay all the blame upon the innocent queen-dealer! It is not always the case that a queen, when well received, will refuse to lay, because the bees are bent on building royal cells; often they will lay quite freely.

Every year's experience only impresses me more forcibly with the truth of what I said at some length to the Cincinnati Convention in 1871, that it was not safe to assert of bees, any more than of human beings, that under what seems to us to be precisely similar circumstances, they will invariably do the same thing.

Oxford, ♀ Ohio, Aug. 15, 1885.

---

* I have often noticed that bees will care more for larvæ from which they can rear queens, than for a caged strange queen.

For the American Bee Journal.

Eight or Ten Frame Hives?

JAMES HEDDON.

I have read Mr. C. P. Dadant's article on page 535, and I am considerably surprised that so practical a producer of honey should entertain views so widely differing from so many of our best and most experienced honey-producers. Looking at the matter in the light of my own experience, I can account for these wide differences of opinion in the following three ways:

1. Location and climate may have much to do with it.
2. Smaller brood-chambers contracted to even less capacity, during that period when the production of honey rather than brood, is desirable, have their special advantages in the production of comb honey; and as Mr. Dadant is a producer of extracted honey almost exclusively, I presume he has never given the smaller brood-chambers a fair trial.
3. It is not impossible that he is mistaken. He favors the production of extracted as more profitable than that of comb honey, which, in my location, and I believe in my latitude, is a decided mistake, and I feel confident that the future will sustain me in this opinion.

In my former article I tried to show why there was little or no more capital invested in five 8-frame than in four 10-frame Langstroth hives. As Mr. D. only asserts to the contrary, I need say nothing further regarding it. In my personal experience with many hundred colonies in 8 and 10-frame hives, I find not the least difference in the number of swarms cast from them.

I hardly know what Mr. D. means by colonies going "without queens for 30 days." There exists no such queenlessness in my system of management. Neither does the system necessitate the buying of a queen at all; nor special efforts in rearing them, and I keep my combs, as a whole, better occupied with brood, and get more surplus by so doing than I ever could, or believe any one can get with any 10-frame hive, in any place.

Mr. Dadant conveys the idea that I should use hives holding combs equal to the capacity of my queens. If I should do so, I should have to place about 20 to 30 Langstroth combs with most of my queens, at certain seasons of the year. He says that Mr. Adam Grimm aimed to sell bees, so adopted a smaller hive. His son, when here, said that he changed to 8-frame hives because he liked them much better for the production of comb honey.

I do not know that Mr. Langstroth is now a producer of honey of any kind; or if he is, it may be extracted honey, the same as Mr. Muth; and as to 8 or 10-frame brood-chambers for extracted honey, the question may be said to hinge upon how much one is inclined toward the horizontal *vs.* the "tiering-up" system. I have twice tried both extensively, and I choose the latter decidedly. For the last two years my colonies in brood-chambers containing 19 frames 12x12 inches, have swarmed fully as much as those in 8-Langstroth-frame hives.

Mr. Dadant says that my contraction plan limits the queen to a capacity of 1,600 eggs per day, and it looks as though I thought that the less bees I had, the better. Certainly there are times when the less bees we have hatching, the better; and during the period that I contract the hive I do not care to furnish combs, food, and nurse bees to produce more than a good swarm of bees every 21 days, which the 5 reversible combs will do.

There are yet left such comb honey producers as Mr. Doolittle and Mr. Bingham, using hives whose brood-chambers contain considerably less capacity than the 8 Langstroth combs. There are also many others besides Mr. Hutchinson and myself whose works argue in favor of the superiority of small brood chambers for comb honey production. I need not say anything of the comfort of handling these less cumbersome hives. Mr. D. says that he states facts, not theories—facts long and thoroughly tested, and the tests still going on. The same may be said of those who adhere to the smaller brood-chambers, except that their tests have shown them that they cannot afford to go on testing any farther in this direction.

I heartily agree with Mr. Dadant, that beginners should not blindly imitate any one's favorite methods, but adopt such as look reasonable, and test them as far as they are able, holding fast to all that they find valuable.

The philosophy of the superiority of small brood-chambers may be found in my article on page 486, and, as I believe, is unanswerable.

Dowagiac, ♀ Mich.

For the American Bee Journal.

A Visit Among Ohio Apiarists.

GEO. W. YORK.

After spending nearly a year and a half of incessant clerical labor in Chicago, on Aug. 3 I started for a two weeks' vacation at my old country home, in Randolph, Portage Co., O., for the purpose of visiting relatives and friends, and to recreate amid the quiet scenes incident to a rural life.

During my vacation I had the pleasure of visiting several bee-keepers, prominent among whom were two at whose apiaries I spent considerable time in witnessing their various methods of managing bees in the production of that most delicious of all sweets—honey.

My first visit was made on Aug. 11 to the apiary of Mr. Henry Crist, of Lake, Stark Co., which county is adjoining that of Portage. Mr. Crist, is one of the pioneers in bee-keeping, having been engaged in keeping bees for 34 years; and for 20 years he has been a constant reader of the BEE JOURNAL. His age is 72; but judging from the vivacity which he manifests in regard to the culture of bees and the production of honey, one would think that he was only in the noon-day of life. He is a pleasant old gentleman, and one who seems to delight in imparting that valuable knowledge which can be obtained only by years of experience. It was really an inspiration to listen to his interesting description of his methods of manipulation in the apiary.

For the past eight years his success in wintering bees has been exceedingly good, as he has not lost a single colony during that time. He wintered 11 colonies through the past severe winter. They were in hives that were placed inside of boxes 5 inches larger than the hives; the space around each one being packed with chaff, and a 6-inch chaff-cushion placed over the hive, just filling the box. Over this box was a cottage-roof arranged so as to allow a quarter-inch space for ventilation under what might be termed the eaves. The hive-entrances were ⅝ of an inch high, and were left open the whole width of the hive, slanting boards being placed over them to prevent the accumulation of snow and ice at the entrances. Mr. C. is a firm believer in the pollen and hibernation theories, and says that he makes his bees hibernate, and thus winters them safely.

The main honey-source in his section is white clover, and the quality of his present crop is very fine. Mr. Crist believes in the bee-keeper having a home market for his honey. He produces an excellent article, and then finds no difficulty in disposing of it all at a good price. On the very day that I called, he had sent a crate of 27 pounds to one of his many regular customers at a neigboring town, for which he was to receive 20 cents per pound.

Mr. C. described his method of controlling swarming in strong colonies during the honey-flow, which I will briefly repeat: Suppose that the desired strength of a colony consists of 30,000 workers; and that the life of a worker in the busiest part of the season is only 42 days; consequently one-half of the 30,000 (or 15,000) workers will have perished at the end of every 21 days—the time required for a worker to hatch from the egg. Now, to replace these 15,000 workers will require 300 square inches of brood, which amount the queen is allowed to produce during every 21 days, and no more. Thus the colony will be kept at the desired strength, and as it does not become crowded for room, it has no inclination to swarm.

He also gave me a queen-cage, requesting me to have it placed in the BEE JOURNAL Museum, which is done, and will, no doubt, there be examined by many visitors. It is intended to be used for keeping queens for a day or two outside of the hive. It was invented by Mr. C. some 15 years ago, and has been in constant use ever since. Although he had heard of and experimented with a number of cages constructed for a similar purpose, yet none of them equalled this one in point of convenience and the accomplishment of the object desired. The following is a description of it:

It is made of ⅛-inch stuff, 3½x3¼ inches, and 1⅛ inches wide, in the similitude of a nailed section. One side is entirely covered with fine wire-cloth tacked on firmly; the other side is covered with a piece of glass made movable by its sliding under small wire pins which are driven into the edges of two sides of the cage, and then bent over the glass. The cage is divided into two compartments, by a wooden partition nearly as wide as the cage, which revolves by means of a pivot at each of its ends. At one end the pivot projects about half an inch, and is then bent so as to form a handle with which to turn the partition from the outside. Each compartment is entered by means of a half-inch hole at its end, which holes are covered with movable pieces of tin. In one compartment, and opposite the partition, is fastened a piece of honey-comb, into which the food is placed; and with this food are placed worker bees. Into the other compartment the queen is put, and by turning the partition slightly, the workers can feed her; or by turning it far enough she may be allowed to join the other bees.

The other apiary which I visited, was that of Mr. Benj. Harding, of Kent, Portage county. Mr. H. is comparatively a young apiarist, having recently begun keeping bees as an adjunct to his regular occupation—that of a butcher. He started with 14 colonies last spring, and now has 32; and 4 of the original number gave no swarms. His object has been that of increase rather than honey.

He keeps them in his garden, and the hives are partly shaded by berry bushes, corn, etc. Nearly all of his bees are pure Italians, and usually very mild and gentle. It was astonishing to see with what expertness Mr. H. handled the frames, quilts, etc., of hive after hive. But if it was not more astonishing, it was immensely more interesting (to me, at least) to notice with what ease and gracefulness one of the apparently tired workers reposed on the back of my bare hand. Fearing that it might become rested too soon, and perhaps leave a rather "pointed" impression, in a manner not desirable to myself, I requested Mr. H. to blow some smoke upon it, and thus perhaps cause it to forsake its favorable position. But instead of flying away, as I had anticipated it would, to my surprise it merely moved up my arm seemingly on an exploring expedition in quest of honey. Foolish bee! it was not aware that however much one might read, write, talk or think about honey, these would not tend to make that person one whit sweeter.

All at once, judging from the peculiar sensations passing through my arm, I imagined that that little, tired worker had certainly discovered some new field in which to work, and was forthwith planting upon it the "colors" of its "colony," and "taking" the new territory in the name of the Queen of=the hive. A few hours after this little episode occurred, my arm presented the appearance of a portion of land upon which the Mound Builders had erected one of their famous mounds. However, at the time, notwithstanding the hearty laugh of the jolly fat butcher (at my expense), we continued to investigate the workings of the hive, until we had examined nearly every colony of the apiary.

Mr. H. had 4 acres of Alsike clover, this season, on which the bees fairly swarmed. He cut it with a mowing-machine while it was still in bloom a little, and while the bees were working upon it, and they never offered to sting either the horses or the men. Surely, I thought, if bees would not attack anything under such circumstances, they certainly would not molest sheep, while the latter were quietly pasturing, as is claimed by that Wisconsin shepherd!

Since reflecting upon the valuable ideas which I gained while visiting these two bee-keepers, I have been impressed with the thought that if bee-men (and all farmers as well) would be more neighborly, and frequently compare their methods of operation, much greater advancement could be made; and perhaps the beneficial relations of bees to fruit and flowering crops in general, would be more commonly understood, and thus cause each one to respect the natural rights of another.

I feel amply repaid for the effort made in visiting the above-mentioned apiaries; also for making the trip to my native State; and I now feel sufficiently recuperated as to again resume my work in the Garden City of the West—Chicago.

Chicago, ♂ Ills., Aug. 20, 1885.

For the American Bee Journal.

Foundation in the Brood-Nest.

8—W. Z. HUTCHINSON, (70—100).

It will be remembered, perhaps, that last year I experimented with a view to ascertaining if it was advisable to hive swarms upon sheets of foundation, when they were at the same time admitted to the surplus apartment that was furnished with either foundation or drawn combs. The result of my experience seemed to indicate that the foundation was used at a loss. I was not satisfied, however, and so I experimented again this year in much the same manner.

Fifty colonies were worked for comb honey. Nearly every colony swarmed. Twenty swarms were hived upon full sheets of wired foundation; and the rest of the swarms upon frames furnished with "starters" of foundation about ½ of an inch in width. The swarms were hived alternately, or nearly so, upon foundation and upon empty frames. They were given only five frames, and contractors used *a la* Heddon. By the way, I have used this contraction system three years, and I feel very grateful indeed to its originator. I had no after-swarming, thanks to the Heddon-method of prevention.

Now for the results: The swarms hived upon empty frames stored in the sections, on an average, 16 per cent. more honey than those furnished with foundation in the brood-nest. Last year, when I reported similar results, quite a number remarked, "That may all be true, but did you weigh the brood-nests? Those swarms that were furnished with foundation may have stored the most honey, but stored it in the brood nest." Unfortunately, I had not weighed the brood-nests, and thus there was an uncertainty about the results. This year I weighed the brood-nests, and was not surprised to find that those furnished with foundation weighed, on an average, 7 per cent. more than the others; but I was a little surprised to find that, including both the sections and the brood-nest, the swarms hived upon empty frames had stored 5 per cent. the most honey.

The 100 sheets of wired foundation which I have used this season in the brood-nest, have been, apparently, worse than wasted. I reason upon this matter as follows: When foundation is used it is soon drawn out into comb—sooner than the queen can occupy it with eggs—and the honey that would have been stored in the sections, if foundation had not been used, is stored in the brood nest. If no foundation is used in the brood-nest, except for starters, no honey can be stored there until comb is built; and as the sections are furnished with foundation, or drawn-out foundation, the honey is stored there, and the queen is able to and does lay in the comb as fast as it is finished in the brood-nest; thus all the honey goes into the sections, and the brood-nest becomes filled with solid sheets of brood.

Why the swarms hived upon empty frames stored the most honey in the aggregate, *i. e.*, including the surplus and that in the brood-nest, I cannot explain. It may have only "happened so." It is possible that reversible frames might have a bearing upon this topic. After the combs are finished (when foundation is used) and filled with brood and honey, reversing then will induce the bees to carry up the honey that is stored above the brood, but it will not effect that stored at the side of the brood-nest, if there is any stored there. If only five frames are used, however, there will not be very much "side" to the brood-nest.

I shall continue these experiments at least another year, and possibly longer.

Rogersville, ☌ Mich.

Exchange.

A Bee-Convention in Syria.

FRANK BENTON.

We had a bee-convention in Syria; or, rather, we have been having a series of them here recently. This may seem rather surprising news to people of the Western World, who suppose Syria is beyond the pale of civilization. But though the country is in many respects behind Europe and America, modern methods in bee-culture have now taken permanent root here. The gatherings have been quite informal in their nature, as close application of parliamentary rules in the conduct of such meetings is not the way of the country; moreover, of the seven or eight different languages represented by the members of the convention, four had to be employed in the talks on bees; namely, English, French, German and Arabic. Perhaps some of the friends in other countries, who find with but one official language in their conventions, it is still difficult to get on harmoniously, will wonder what we could do with such a Babel of tongues. Nevertheless we got on quite well, and the interchange of ideas will, no doubt, prove of great value to many of the participants. At one of the meetings a President was unanimously elected, but he has not yet called anybody to order. Probably the most important work done by the convention was the adoption of a standard frame for Syria, to be known as the "Syrian Standard Reversible Frame." All bee-keepers in countries where several sizes of frames have come into use, will comprehend at once the wisdom of such a step while movable-comb bee-keeping is yet in its infancy in these parts. The frame adopted measures 14⅜ inches (= 365 mm.) in length, and 8¾ inches (= 223 mm.) in depth. All members of the convention, which include two Americans, one Frenchman, one German, one Italian, and a number of Syrians, follow American methods altogether in their apiaries, if we except one, a Syrian peasant who has but one frame-hive as yet, and for the present retains native hives—long cylinders made of clay or of wicker-work, and also earthen water-jars, into both sorts of which the bees are put after the receptacle is laid on its side.

Among other topics which were discussed at our meetings, migratory bee-keeping (already largely practiced here) and hives adapted to it, received much attention; also in connection with this the various bee-ranges of the country were discussed. Orange-blossoms furnish the chief spring harvest, though almond, apricot, and other fruit-blossoms are of importance. Cactus plants supplement these; in fact, in many localities they form the chief early honey-yield. The late harvest comes in mid-summer from wild thyme, which is abundant in most of the hilly and mountainous portions of the country. Of course, there are also many minor sources—wild flowers, etc. It was agreed that where orange, cactus and thyme blossoms were abundant, with the usual minor yields, nothing would be gained by transporting bees to other pastures.

The wintering problem did not get much attention, since there is no difficulty on that score here; nor did we devote very much time to a discussion of the relative merits of the different races of bees, as none but Syrians are kept in Syria. The writer, however, and a member formerly in his employ in Cyprus, testified to the superiorty of the Cyprians over the Syrians. No other members had had any experience with Cyprians.

Altogether, a bee-convention in Syria may be considered an interesting and important event—interesting to the outside world as showing the progress already made, and that America has been taken as the model; important to the country itself, both because it is likely to spread greater interest in an industry which can be made to contribute much more than heretofore to the welfare of Syria, and because the proceedings are likely to induce a more systematic development of the industry in the East.

Our eyes are turned toward America for light in bee-keeping matters; and if the world hears of large reports from these shores of the Mediterranean, the credit of them will, it is to be hoped, go where it belongs.

Beyrout, Syria, May, 1885.

For the American Bee Journal.

Bee-Diarrhea—Contraction Method.

ABEL GRESH, (23—50).

In Mr. Heddon's article on page 519, he uses the word "prime" in an unwarranted sense. Webster, in his Unabridged Dictionary, gives the definition as, "First in order of time; original; primitive; primary," etc.; and this is the sense in which I, as well as Mr. Stewart and others, supposed was the sense when used in connection with the word "cause"—"prime cause" meaning "first cause," as generally accepted in our language.

Pollen, no doubt, may be a powerful adjunct-cause, but from all the discussions of the "theory," during the last two seasons, I can give it no higher seat. We know that in case of the human family, the adjunct-causes of diarrhea, include very nearly all of our substantial foods; and what would be thought of the practitioner, who, in looking at the excreta, to find the cause of the disease, would banish meat, potatoes and vegetables from all our tables? Because he happened to notice these in the excreta, and he concludes they are the *prime* cause of the disease, no healthy person is safe unless he confines himself to bread and water! I doubt if intelligent persons would call for his services again.

No, this cause of bee-diarrhea must be looked for in some other quarter, than this theory that does not develop. I have for some time wondered if Mr. Heddon would adopt a deep frame hive, whether he would not find a road leading toward one of the *prime* causes of bee-diarrhea, in comparing them with his long, shallow frames. Mr. D. A. Jones uses the deepest frame that I have learned of, and his apiaries seem nearly exempt from the dreaded disease.

In regard to Prof. Cook's opinion as to the cause of bee-diarrhea, I can only say: If the Professor does not say, on page 197, that some of Mr. Doolittle's bees that had the odor of the disease present, yet seemed to be without pollen, then I am unable to read correctly or understand what I read.

I did not think it unjust that Mr. Heddon did not read a certain old article of Mr. Doolittle's. I referred to an article by Mr. Doolittle entitled "Those Six-Frames," found on page 69 of the BEE JOURNAL for 1884. If contraction and expansion is not there systematized as summer and winter management, then I do not understand its meaning. If it is so systematized, did Mr. Heddon never see it before? If Mr. Heddon did read it before, then I say he is unjust to Mr. Doolittle, in not giving him the honor of priority in using the system, and claiming for himself the honor of only adapting the system to his style of hive.

I do not know what Mr. Heddon means that my last few years' practice should show. If he means that I should be practicing expansion and contraction of the brood-combs in my hives, I can assure him such is the case, as I use Gallup hives 18 inches long with 7 brood-combs, at present, to each hive, and wide-frames at the ends, according to Mr. Doolittle's plan or system as quoted.

I would also state in this connection, that I am using 10 slotted honey-boards on my hives for trial, and I am so well pleased with their use, in connection with crates, that I shall adopt them generally next season. I was so disgusted with bees sticking crates to the tops of the frames last season, that I had almost determined to use wide-frames in full upper stories in preference; but now the crate suits me best, when used with a Heddon slotted honey-board. I also intend to give the Heddon crates, adapted to my hive, a trial next season, as my present plain crate seems capable of being improved upon.

My desire is to give bee-keeping a fair trial, and if I succeed in wintering my bees as I have done, and they increase as rapidly as they have for the last three seasons, I will be obliged to drop all else in order to give them proper attention.

Weedville,⊙ Pa.

Country Gentleman.

Wind-Breaks in the Open Northwest.

J. W. CLARKE.

Substantially in all the open Northwest, much of which is prairie, wind-breaks have been very generally advocated and practically patronized; and wide experience has shown that the grey or white willow makes the most effective wind-break, when properly set out and cultivated afterward, of the four kinds of trees that have been used to resist high winds. This white willow—the name probably having been suggested by the whitish color of the twigs and branches when the green bark is stripped off—was called the Huntingdon willow until about 30 years ago. It is the most valuable tree that we have in the great Northwest.

The cottonwood is our best grove-tree, being large, tall and handsome, when six to ten years grown. It grows too tall, and does not sucker or throw up from the ground half as many branches as the willow.

The box-alder is a more picturesque form of tree, growing always crooked in stem and branch; but even if it grew as straight and smooth, the alder does not grow more than half as fast as the willow.

Soft maple is considerably patronized as a grove-tree, but its suckering habit makes a great deal more labor to keep the suckers down, and so allows heads to form. When quite young, maple groves are handsome, but a good looking maple grove that has been growing ten years, is hard to find, as the trees vary so much in height and form, and want of similarity. The maple is at present, moreover, badly affected with leaf-rust, from cell rupture, in many groves set out within two or three years. On account of comparatively slow and uneven growth, the maple does not approach the willow as a wind break in the Northwest.

By "wind-break," a thick-set growth at the ground is meant—a growth of nearly uniform thickness formed and made effective according to the filling out, or the number of shoots growing directly from near the ground surface, in which feature the willow leads and excels all the varieties of cottonwood, maple, box-alder and ash—the only sorts generally grown with success in this part of the Northwest.

Then, as to hardiness and power to recuperate after severe injury, the white willow will grow up again and again from the roots, even after the top growth has all been killed by burning—a fate which happens to it in numbers of cases. In fact, some thirty or forty rods of this willow has been twice burned off on one of my farms, but has thrown a fine, thrifty growth since. So the total destruction of the willow by fire, if burnt before the leaves are formed in the spring, need not be feared. Willow wind-breaks are so uniform in height and shape of growth as to make a very neat and pleasing appearance.

The late powerful hurricane, which destroyed churches by the half-dozen, houses by the score, and barns and stables by the hundred, has proved the great importance and necessity of groves, and particularly willow wind-breaks, for protecting houses and all sorts of buildings. Where well protected, no serious damage to buildings resulted from the hurricane. Three rows of willow wind-break saved a large stable and three cribs full of corn for me. Two rows of willows, the cuttings being one foot apart in the row, and the rows at least eight feet apart, make an effective wind-break after four years' growth.

When the wind violently strikes a bank, or rising ground, it must rise to pass over. When it strikes a building, the structure must go down, or the wind must rise and pass over it. If a two or three row wind-break of thickly growing willows intervenes, so that it intercepts the head of wind before it reaches the building, it will be saved. The willows bend somewhat as the wind-force increases, but still raise the current of air, so that its direction is mainly over the top. Three-fourths of the damage by the late terrific hurricane would have been prevented by efficient wind-breaks.

Having had considerable experience with it in Wisconsin, I will say a word about the basket willow, which, if a third row were added outside two rows of white willow, would make a very complete and effective resisting barrier. It is a smaller growing sort, and all its twigs and branches are fine and tough, making a thicker growth, that would prevent wind, sleet and snow alike from driving through and remaining too late inside the shelter before thawing in the spring. Two rows of white willow, and a third of the smaller basket willow—*Salis purpurea*—the latter set either inside or outside, and not nearer than eight feet, would make a most durable barrier against both wind and snow, while still admitting a full and free circulation of pure air.

Plymouth County,⊸ Iowa.

Philadelphia Press.

Lamentable Ignorance about Bees.

PROF. A. J. COOK.

A novel lawsuit is now pending in the State of Wisconsin. A Mr. Powers is a large land-owner, and keeps a large number of sheep. His neighbor, Mr. Freeborn, is a very successful and extensive bee-keeper. Mr. P. has noticed that his acres of white clover, where his sheep are pastured, are swarming with bees — presumably, though it would be hard to prove, Mr. Freeborn's. Mr. P. also notices that his sheep run from the clover to the fence corners. Who has not noticed the same thing in the summer when that dreaded enemy, the sheep bot-fly (*Œstrus ovis*) attempts to attach its eggs to the nose of the sheep? Ignorant of the true cause, this Wisconsin shepherd blames the bees, and thus brings suit against Mr. F. for heavy damages.

Perhaps no point in science is more fully proven than that bees are of great value in fertilizing such flowers as they visit for pollen and nectar. If Mr. Powers understood the case aright, he would feel very kindly towards Mr. F. and his bees, and would, instead of prosecuting, kill the fattest and plumpest lamb in the flock and send it as a just reward to Mr. Freeborn.

The bee-keepers of the country have become thoroughly aroused because of this unrighteous procedure, and have organized and raised hundreds of dollars to insure a just verdict in this case, in which they all feel a deep interest. That bees may sometimes become a nuisance about cider-mills, vineyards, etc., there is no question; that they are ever anything but a signal advantage to plants in visiting the flowers, is also beyond question. Of course there can be no doubt as to the results of this suit. A verdict against the bees would be a sad comment on our nineteenth-century civilization.

Agricultural College, ♀ Mich.

* * *

For the American Bee Journal.

Sheep vs. Bees in Germany.

C. J. H. GRAVENHORST.

I have read with interest the articles in the AMERICAN BEE JOURNAL, on the sheep-bees lawsuit. The article entitled, "Can Bees Commit Trespass?" I have translated for the September issue of my *Illustrierte Bienen-Zeitung*.

Some years ago we had a similar suit in Germany. There were two landlords, brothers, in one province of Prussia, who had a sheep-pasture that was covered with *Erica vulgaris*, or common heath. (If I do not err, in America it is called sourwood). The bee-keepers of the surrounding country would take their bees (many hundreds of colonies) to this place, in a neighboring wood, from which they could reach the heath.

The landlords would not endure this, claiming that the bees drove the sheep from their feeding-place. In order to stop it, the landlords ordered one of their servants to make some wooden-boxes, and besmear them on the inside with honey; as soon as thousands of the bees filled the boxes he killed the bees with sulphur. In a short time all the bees were dead.

The bee-keepers then made the landlords defendants in a suit, the result of which was that the landlords had to pay all the damages and the costs of the suit—about $1,500.

Glowen, Prussia, Aug. 5, 1885.

For the American Bee Journal.

Among the Bees in Summer.

17—G. M. DOOLITTLE, (50—100).

Continuing the subject of my last article on page 502, I wish to say a little more regarding swarming.

As the season advances to the commencement of the basswood honey-harvest, I operate differently with all swarms which issue at this time, and later, adopting the following plan: As soon as a swarm is seen issuing, I take six frames of comb and two wide frames of sections, putting the same into a box or hive which is convenient to carry, and when I arrive at the hive from which the swarm is coming out, I take the frames from the box and place them down by the hive. The hive is now opened, and all the frames of brood and honey, with the adhering bees, taken out and put into the box, after which the two wide frames are placed one at each side of the hive, and the six frames of comb put between them. The hive is now re-arranged and closed.

If the weather is warm, and there are many bees on the frames of brood in the box, about one-third of them are shook off in front of the hive, when the box is placed in the shade a rod or two away, so none of the bees from the swarm will find it while they are being hived, which is the next thing I do—hiving them in the re-arranged hive on the old stand. If the weather is cool, or but few bees are on the combs of brood, omit the shaking off, for it will want all of them to keep the brood in good condition.

Now take the box and place the combs in an empty hive, placing the hive where you wish it to stand, and after all is nicely fixed, leave them until the next morning. At any time during the forenoon give them a virgin queen or a queen-cell just ready to hatch, and you will have no trouble with after-swarms, for the bees feel so poor at this time that they are glad of anything in the shape of a queen.

However, if the delay is longer than 18 hours, they often get so strengthened by the rapidly hatching brood, that they will destroy the queen cell, or kill the virgin queen, and after-swarming will result. Do not give them a laying-queen, unless you wish a prime swarm from the colony in two weeks or so. By this plan I get a powerful colony on the old stand, which will do as much, if not more, in the sections than they would if they had not swarmed, for a swarm will work with a vigor not known to bees under any other circumstances.

In ten days, if the honey-harvest continues, sections are given to the colony which has rapidly increased to such, from the combs of brood carried in the box, and as the young queen has now commenced to lay, the bees will at once go into the sections, often giving a good yield of honey.

From such a colony I have just taken off 42 pounds of honey, in sections, while the swarm hived on the old stand has given 71 pounds, making 113 pounds from what was a weak colony in the spring. As all will note, this is only carrying out the same principle I spoke of in the other article, which is, to have the bees as free from the swarming-fever as possible during the honey harvest.

As I am now taking off honey in sections, perhaps I cannot do better in concluding this article than to tell just how I do it. The larger part of my hives are boxed at the sides and top, the top boxes being put on first, so as to have them filled first. Again, the top sections were filled with foundation while only starters were used in those at the side, so that as a rule the top sections are all completed while those at the sides are only filled with comb which is two-thirds full of honey, the bees just commencing to seal it at the top of each section. I explain this so the reader can readily see the shape the honey is in, also the plan of working.

Being ready, I lift off the cover to the hive, and then take off one of the side boards covering the first wide frame at the top (I use wide-frames, not cases), when I blow a little smoke on the bees. This causes them to run down into the hive, and over into the next wide frame of sections. I now blow smoke through the holes which the bees always leave in the upper corners of their combs, next the sections, puffing it quite hard, which causes the smoke to go nearly across the whole number of wide-frames, filling each space between the sections with smoke, which causes the bees to leave them and run below. After giving them a half moment of time to get below, I commence taking off the wide-frames, one after the other, until past the centre, when I again blow a little more smoke in at the holes, so as to send it through to the opposite outside wide-frame from where I commenced, when the rest are taken off. In this way the whole top is taken off with scarcely a bee left on the wide-frames of honey.

I now raise the nearly filled wide-frames, from the sides of the hive to the top, putting in wide-frames of sections having starters in them, at the sides. In a week or so the same operation is repeated, in the meantime having emptied the filled wide-frames, putting the honey in the honey-room, and filling the frames with sections again, ready to take the place of those raised from the sides.

Many seem to think this wide-frame system a laborious plan, but after carefully testing it with other plans given, I cannot see that they have as much labor-saving to recommend them over this, as some would have us think; while I firmly believe that the principle I have here given, regarding the using of wide-frames, will secure a better yield of honey than any other known.

Borodino,☉ N. Y.

* * *

☞ The next meeting of the "Patsalaga Bee-Keepers' Society" will be held at the residence of the President, Mr. J. R. McLendon, at Ramer, Ala., on Sept. 10, 1885. It is hoped that the membership will be largely increased at this meeting, and that all who can will attend. M. G. RUSHTON, *Sec.*

For the American Bee Journal.

Extracted Honey.

W. G. FISH.

Honey, as an article of food, has been known since very ancient times. We find it mentioned many times in Holy writ, and to reside in "a land flowing with milk and honey" (two of the most strengthening and nutritious of food-subtances) was the desire of the ancient Jews. Honey is the only pure natural sweet found, and as such it commands a high place in the products of the world; and extracted honey is rapidly taking its rightful place in the front rank of honey-products.

The only liquid honey with which people were formerly familiar, was the old-fashioned "strained honey" which was taken by mashing combs, bee-bread, dead bees and larvæ, in a sticky mess, and heating, when a dark, rank, turbid honey would be obtained, which contained a considerable quantity of bee-bread, legs and wings of bees, etc. It was honey coarse in flavor and most repulsive in its associations. Extracted honey is honey in its purest condition—exactly as gathered by the bees—without any foreign admixture whatever. It can only be produced through the modern methods of scientific bee-culture—by the use of movable-comb hives and the honey-extractor—in the following way:

The apiarist goes to the hive from which he wishes to extract, removes the cover and carefully raises the quilt that covers the frames, at the same time directing a stream of smoke from his smoker upon the bees, which alarms them and before which they retreat. He then lifts out the surplus combs, gives them a shake to dislodge the bees, brushes off all that remain, and carries the combs to the extracting-room. The caps of the cells, if they are capped, are shaved off with a sharp knife, and the combs then put into the extractor. If water is poured upon a rapidly revolving grindstone it flies off because of the force of the motion imparted to it. This force is called centrifugal force, and the honey-extractor applies this force in such a way that it throws the honey from the combs which are left entire, to be returned to the bees to be again filled and extracted, and so on till the end of the honey-flow.

The honey, when drawn from the extractor, has a bright, sparkling clearness never seen in strained honey, and retains all the flavor and perfume of the particular flowers from which it was gathered. By this means it will be seen that we can preserve the identity of the clover, basswood and buckwheat honey.

This honey will granulate or candy in cool weather as will, in fact, any pure honey, unless heated and sealed while hot. This granulation is a test of its purity, and while in that state, it will keep for any length of time, and may easily be liquified by placing the vessel containing it in warm water. When served upon the tea-table as a sauce to biscuits or hot-rolls, it makes a fine appearance, and is relished by every one; and nothing is better for breakfast than hot cakes and honey. Thus the superiority of extracted honey, and its special superiority over strained, will be recognized.

Ithaca,♀ N. Y.

Prairie Farmer.

Bee-Keepers at the Fairs.

MRS. L. HARRISON.

All bee-keepers ought to be interested in looking after and preparing an apiarian exhibit for State, county and district Fairs this autumn. At no other time or place, as at these great popular schools, can people see the importance of this industry. Honey has generally been regarded as a luxury, or a medicine, and not as a food for every man's table. People must be taught that it is an excellent article of diet, far more healthful than the syrups in the market; besides, for several years, it has been sold cheaper than butter.

For these reasons, quantities of the honey of each State should be on exhibition at their respective State Fairs; samples of all the different kinds produced, from the earliest spring honey to the latest gathered in autumn. Some bee-keepers think they have done their whole duty when they put on exhibition a few pounds of white clover or basswood honey, and many persons are led to think that all the honey the exhibitors produce is of that kind. The public must be taught that neither the bees nor their owners make honey, but that bees gather it from flowers.

Apple honey is dark, but fine-flavored, resembling the aroma of roses; that from the raspberry is light and of a delicate flavor. The justly celebrated white clover is light, and the comb is very delicate. The linden or basswood produces light brown honey, very rich in vegetable oil. Goldenrod gives it rich and thick, and of a golden color. The autumn honeys, in many seasons, appear to be mixed, different flowers such as asters, polygonum, and many others blooming at the same time. Honey-dew, bark-lice or "bug-juice," is generally very dark, and of a sickening flavor, and the comb has no strength; sometimes the honey looks as if sooty water from a coal chimney was mixed with it.

It would be well for the bee-keepers to fill cases of comb and extracted honey of all kinds produced by them, and label them—as, apple, raspberry, white clover, etc., in large letters. Persons have said to the writer that they thought bees made honey, and that it was all alike.

In order to facilitate the introduction of honey, let exhibitors have small packages of honey for sale, in such shape as to be readily carried. At a Fair in Toronto, Canada, one autumn, a prominent bee-keeper sold hundreds of tiny tin-buckets containing a few ounces of fine extracted honey, at a nickle apiece. By so doing many persons to whom honey was a strange food, got a taste of it, and an appetite was acquired, creating a demand for it in that market. Paper boxes or buckets with handles are just the thing in which to carry a one-pound section. With the aid of these, many pounds of honey might be sold at Fairs.

In getting up an exhibit, beeswax is not to be forgotten; arrange it in attractive form. A collection of honey-plants, mounted and arranged scientifically, would add to the value of the exhibit. Dealers in apiarian supplies should exhibit their goods so that the people may have an opportunity of knowing what modern bee-keeping is, and of judging intelligently.

Peoria,⊙ Ills.

Mistakes in Bee-Keeping.

It is a mistake to invest very largely in any business that you are not acquainted with; better post yourself thoroughly before commencing.

It is a mistake not to feed bees before blossoms appear in the spring, to encourage breeding.

It is a mistake not to have your colonies strong at all seasons of the year.

It is a mistake to neglect to put on supers early enough in the spring, if comb honey is required for breeding purposes.

It is a mistake not to use comb foundation; for by its use we can always depend upon straight combs and greater conveniences for handling.

It is a mistake to neglect to remove all full boxes or sections as soon as properly sealed. Bees sometimes soil them by traveling over them with their dirty feet.

It is a mistake not to supply an abundance of room for them to store their surplus, when honey is plentiful. Bees often remain idle for want of space to store their treasure.

It is a mistake to extract or take honey from the bees too late in the season without supplying them with more. It is cruel to rob them and then leave them to starve.

It is a mistake to visit the bees too often during the winter; better have their winter quarters so constructed that their condition can be ascertained without disturbing them.—*Fireside Friend.*

Convention Notices.

☞ The Kentucky State Bee-Keepers' Society will meet in Walker Hall, at Covington, Ky., on Sept. 23 and 24, 1885. The Reverend L. L. Langstroth is expected to be present, and all bee-keepers are invited to attend.

J. T. CONNLEY, *Sec.*

☞ The Progressive Bee-Keepers' Association, of Western Illinois, will meet at Macomb, Ills., on Thursday, Oct. 15, 1885. Let everybody come and have an enjoyable time. Good speakers are expected.

J. G. NORTON, *Sec.*

☞ The 3rd annual convention of the Iowa State Bee-Keepers' Association will be held on the Fair Grounds at DesMoines, Iowa, during the Fair week. The first meeting will held be at the bee-keepers' tent, on Tuesday, Sept. 8, at 2 p. m.; also there will be a meeting held on each succeeding night, or as often as the convention may desire.

Local Convention Directory.

1885. *Time and place of Meeting.*

Sept. 3.—Eastern Indiana, at Richmond.
M. G. Reynolds, Sec.

Sept. 8–12.—Iowa State, at DesMoines, Iowa.
Wm. Goos, Sec., Davenport, Iowa.

Sept. 10.—Patsalaga, at Ramer, Alabama.
M. G. Rushton, Sec., Raif Branch, Ala.

Sept. 23, 24.—Kentucky State at Covington, Ky.
J. T. Counley, Sec., Napoleon, Ky.

Oct. 10.—Wabash County, at N. Manchester, Ind.
J. J. Martin, Sec., N. Manchester, Ind.

Oct. 15.—Progressive, at Macomb, Ills.
J. G. Norton, Sec., Macomb, Ills.

Dec. 8–10.—Michigan State, at Detroit, Mich.
H. D. Cutting, Sec., Clinton, Mich.

Dec. 8–10.—North American, at Detroit, Mich.
W. Z. Hutchinson, Sec., Rogersville, Mich.

☞ In order to have this table complete, Secretaries are requested to forward full particulars of time and place of future meetings.—Ed.

SELECTIONS FROM OUR LETTER BOX

Almost a Frost.—G. M. Doolittle, Borodino,⊙ N. Y., on Aug. 27, 1885, says:

It is cold and wet here. It was nearly cold enough for a frost on the night of Aug. 25.

Coldest Summer Month. — James Heddon, Dowagiac, ♀ Mich., says:

August, with us, was the coldest summer month on record, for 17 years. October would be ashamed of such a temperature. Myriads of flowers are open, and only waiting for warmth to fill with nectar. If this weather continues, our colonies will have nothing to winter upon, or to exchange for sugar syrup. I will soon endeavor to make myself clearer to Mr. Stewart, upon the contraction system, as adapted to wintering.

Bees and Ducks.—H. Raisch, Vineland,♀ N. J., on Aug. 25, 1885, says:

I hope and wish that the case of sheep *vs.* bees will get the deserved victory in favor of the bees. A few of my very young ducks amused themselves by catching bees that also came to the pump for water. Some of the ducks died, others I happened to find in time, and extracted the bee-stings out of the roof of their beaks, and saved them by milking a little milk in their beaks. Now, if the bees would have been another man's, would it have been sensible for me to ask him for damage? Decidedly *no.*

Fastening Hives Down.—Geo. M. Bishop, Indianapolis,⊙ Ind., writes:

Being away from home about three years ago, my wife sent me word that the bees needed attention. When I reached home I found the hives scattered over the yard, and the air full of bees—all I suppose except those that were killed. I began to think of some plan by which I could prevent a similar catastrophe, and the idea came to me of placing a stake on each side of the hive, extending to the top of the brood-chamber, and driving a staple in one stake, to which was to be fastened a strong wire which was then carried over the hive and fastened to the other stake by a ring being on that end of the wire, which was to hang on a heavy spike driven into that stake. If I desired it very secure, I could place a wedge on top of the hive and under the wire. I never used it unless the weather indications were of a threatening nature.

Defending our Pursuit, etc.—G. C. Greiner, Naples,+o N. Y., on Aug. 27, 1885, writes:

It seems strange, and I am sorry to see it, that bee-keepers do not make a better showing in taking the effectual step for the defense of their occupation, when so unjustly attacked. Can it be possible that the claimant in the sheep-and-bee lawsuit is sincere in the belief of his claim? and if so, can it also be possible that an otherwise probably enlightened mind, in these days of progress and advancement in all branches, can be so terribly in the dark about matters that are daily before our eyes, and which the slightest observation would prove false or correct, as the case might be? On page 243 occurred a slight mistake, which I wish to correct. Tuisco Greiner was represented as one of the firm of Greiner Bros., engaged in bee-keeping; this is not the case, as he has been in the seed-business for years, and is now engaged in horticultural literature. The firm of Greiner Bros. consists of Friedemann Greiner, who is, this season, on an exploring excursion in the northern part of Virginia, for the purpose of investigating the honey-resources of that locality, and myself, at Naples, N. Y., engaged, as heretofore, in keeping bees. The present season's honey-crop will be quite satisfactory. Basswood yielded heavily, and bees are now at work on the buckwheat. It is yet too early to give a specified report of the crop, but I will do so at the proper time, and will also add a report of last winter's loss.

A Bee in a Shaving-Saloon.

The New Orleans *Times-Democrat* tells this amusing story:

While the German proprietor of the barber-shop was shaving a fat man, and saying, "It vas a varm day, and if it don't get cooler ve melts," a bee came and buzzed around the ear of the fat man, who became nervous and slapped at it viciously. Then the bee soared around in a short circle, and endeavored to make a landing and rest on the German barber's nose, who in turn wiped the air with both hands in a foolish attempt to kill the annoying insect, but the bee darted at him, and he dodged behind the chair and yelled to the shop boy: "Hans, come here right avay und make de bee go avay." Hans obeyed instructions, and seeing the bee humming lazily around, he opened on it with a wet towel, and the first swash he made knocked a couple of globes off the gas-fixture, and the bee retaliated by stinging him on the lip. This excited Hans, who charged around the shop after the bee, and worked his towel so vigorously that he succeeded in whacking every customer that occupied a chair, and caused an irate Frenchman to exclaim: "Sacre! what for you heet me when you knock at ze leetle bug. Aha! by gar, don't do zat some more."

About this time the bee flew along the line of chairs, and coming to a bald-headed man tried to graze around on his pate, but the attending barber struck at him with a hair-brush, whereupon the bee hit him under the left ear, and then charged the whole shop. It buzzed in a way that indicated it meant business, and after tapping the Frenchman on the nose, the German proprietor over the eye, and the fat man on the chin, it managed to array the wounded men against it. The Frenchman, who was wild with rage, clutched a dusting-brush, the fat man a broom, and the German barber an umbrella. Each man kept his eye fixed on the bee, and noticed nothing else, and struck at it with all their strength. The first volley of blows aimed at the agile honey-maker resulted in the Frenchman being knocked down by the fat man's broom, while the barber peeled all the skin off his nose with the umbrella. The excitement was so great and the fight was so hot that neither the barber nor the fat man noticed that the Frenchman had received their blows, hit with their eyes still fixed on the bee, and mistaking the yells of the prostrate Frenchman for encouraging shouts, they continued to strike at the bee with all their strength, which invariably missed the bee and hit the unfortunate man on the floor, and had not a policeman, attracted by howls and the sound of breaking glass, entered the shop, he would have been beaten to a pulp. It is not necessary to say that the bee, as soon as it grew tired of punching the heads of the whole crowd, escaped without a bruise, and left the German barber and the fat man to explain matters with the unfortunate Frenchman.

☞ To create Honey Markets in every village, town and city, wide-awake honey producers should get the Leaflets "Why Eat Honey" (only 50 cents per 100), or else the pamphlets on "Honey as Food and Medicine," and scatter them plentifully, and the result will be a DEMAND for all of their crops at remunerative prices. "Honey as Food and Medicine" are sold at the following prices:

Single copy, 5 cts.; per doz., **40** cts.; per hundred, **$2.50.** Five hundred will be sent postpaid for **$10.00;** or **1,000** for **$15,00.** On orders of **100** or more, we will print, if desired, on the cover-page, "Presented by," etc. (giving the name and address of the bee-keeper who scatters them).

☞ The 4th semi-annual meeting of the Wabash County Bee-Keepers' Association will be held at North Manchester, Ind., on Oct. 10, 1885, in the G. A. R. Hall, Union Block. First session at 10 a. m. All bee-keepers are cordially invited to be present.

J. J. MARTIN, *Sec.*

WEEKLY EDITION
OF THE
AMERICAN
ESTABLISHED IN 1861
OLDEST BEE PAPER IN AMERICA
BEE JOURNAL

PUBLISHED BY
THOMAS G. NEWMAN & SON,
PROPRIETORS,
923 & 925 WEST MADISON ST., CHICAGO, ILL.
Weekly, $2 a year; Monthly, 50 cents.

ALFRED H. NEWMAN,
BUSINESS MANAGER.

Special Notices.

The Baking and Roasting Pans, for baking bread, cake, puddings, pot-pie, fish, etc., and for roasting meats, poultry, game, oysters, etc., are excellent. We have two in use, and like them very much. They are made by the patentees, Richey & Williams, Sing Sing, N. Y.

◆

To Correspondents.—It would save us much trouble, if all would be particular to give their P. O. address and name, when writing to this office. We have several letters (some inclosing money) that have no name; many others having no Post-Office, County or State. Also, if you live near one post-office and get your mail at another, be sure to give the address we have on our list.

◆

☞ If your wrapper-label reads Sept. 85, please remember that your subscription runs out with this month. Renew at once, so as not to lose any numbers.

◆

☞ For two subscribers for the Weekly BEE JOURNAL (or 8 for the Monthly) for one year, we will present a Pocket Dictionary, and send it by mail, postpaid.

◆

☞ **Sample Copies** of the BEE JOURNAL will be sent FREE upon application. Any one intending to get up a club can have sample copies sent to the persons they desire to interview by sending the names to this office, or we will send them all to the agent.

◆

Bees and Poultry.—But few out-door pursuits go so well together as bees and poultry. Give the poultry the necessary attention in the morning and evening, and give the bees such of the time between as becomes necessary. We have made arrangements by which we can supply the American Poultry Journal (price $1.25) and the Monthly BEE JOURNAL (price 50 cents) both for $1.00 a year. The Weekly BEE JOURNAL and the Poultry Journal, both for $2.50 a year. This is a rare opportunity to get two standard papers for about the price of one.

◆

☞ **Preserve your papers** for reference you have not got a Binder we will mail you one for 75 cents, or you can have one FREE you will send us 3 new yearly subscripons for the BEE JOURNAL.

CLUBBING LIST.

We supply the **American Bee Journal** one year, and any of the following publications, at the prices quoted in the last column of figures. The first column gives the regular price of both. All postage prepaid.

	Price of both.	*Club*
The Weekly Bee Journal	2 00..	
and Gleanings in Bee-Culture	3 00..	2 75
Bee-Keepers' Magazine	3 00..	2 75
Bee-Keepers' Guide	2 50..	2 35
Kansas Bee-Keeper	3 00..	2 75
The Apiculturist	3 00..	2 90
Canadian Bee-Paper	3 00..	2 75
The 7 above-named papers	7 50..	6 75

◆

Honey and Beeswax Market.

Office of the AMERICAN BEE JOURNAL,
Monday, 10 a. m., Aug. 31, 1885.

The following are the latest quotations for honey and beeswax received up to this hour:

CHICAGO.

HONEY—Receipts of comb honey are coming more freely, and the demand is about equal to it. Yet 15c per pound is all that can be obtained. Extracted honey ranges from 5@8c for the different grades and styles of packages.

BEESWAX—22@23c.

R. A. BURNETT, 161 South Water St.

BOSTON.

HONEY.—There is no change in the market, to speak of. We have had some new Vermont white clover honey in 1-lb. sections, which is very fine. There is a large crop in that State. Prices remain as follows: For 1-lb. sections, 16@18c.; for 2-lbs., 14@16c. There is little or no sale for extracted.

BEESWAX.—30 cts. per lb.

BLAKE & RIPLEY, 57 Chatham Street.

NEW YORK.

HONEY—The honey market is very quiet, and will continue so until fall trade opens up. Some old stock is on the market yet, with small shipments of new comb honey arriving. Southern extracted honey is coming in very freely. Quotations are as follows for comb honey: Fancy white in 1-lb. sections, 14@15c; fair to good in 1-lb. sections, 12@13c; fancy white in 2-lb. sections, 13@14; fair to good in 2-lb. sections, 11@12c; fancy buckwheat in 1-lb. sections, 9@10c; fancy buckwheat in 2-lb. sections, 7@8c. Extracted white clover, 6@7; buckwheat, 5@6c; Southern, per gallon, 55@65c.

BEESWAX—Prime yellow, 25@28c.

MCCAUL & HILDRETH BROS., 34 Hudson St.

CINCINNATI.

HONEY—The market is quiet with fair demand for extracted, and an abundance of offerings from commission houses and producers. Prices range between 4@8c on arrival. There is but little new comb honey in the market, with an occasional demand. Prices nominal.

BEESWAX—Is in fair demand with liberal offerings, and brings 20@24c on arrival.

C. F. MUTH, Freeman & Central Ave.

SAN FRANCISCO.

HONEY.—New comb honey sells slowly because of last year's crop now on hand. We now quote—Extracted, old dark 4½c.; new white, 5½@6 c.; dark, 4¾@5c. No extra white coming forward.

BEESWAX—Quotable at 23c.—wholesale.

O. B. SMITH & CO., 423 Front Street.

CLEVELAND.

HONEY.—The new crop is beginning to arrive and is selling at 14@15 cts. per lb. for choice 1-lb. sections. Old honey is very dull—none selling although freely offered at 10@12 cts. Extracted, as usual is not in demand in our market.

BEESWAX.—20@22 cts. per lb.

A. C. KENDEL, 115 Ontario Street.

KANSAS CITY.

HONEY—Trade in this article is very quiet just now. Nothing sells at this time of year except extracted honey, in bulk and small glasses and tins of honey. Some large sales of extracted this week at 5@6c for southern, and 6@7c for clover and sage. Comb honey nominal, at 12@13c for choice white 2 lb. sections, and 13@14c for 1-lb.

BEESWAX—Weak at 20@25c.

CLEMONS, CLOON & CO., cor. 4th & Walnut.

◆

☞ Our rates for two or more copies of the book, "Bees and Honey," may be found on the Book List on the second page of this paper. Also wholesale rates on all books where they are purchased "to sell again."

The National Bee-Keepers' Union.

LIST OF MEMBERS AT THIS DATE:

Addenbrooke, W.,
Allen, Ransom,
Alley, Henry.
Anderson, J. Lee,
Anderson, Wm.,
Angell, C. S.,
Baldwin, B. T.,
Ball, Miss J. M.
Barnes, Wm. M.,
Baxter, E. J.,
Bean, C. M. & W. L.
Bernschein, Ernst,
Besse, H., M. D.,
Bitzer, Wm.,
Blanchard, O. C.,
Blount, C. N.,
Bohn, Gustav,
Bray, Moses,
Brickey, Peter.
Buchanan, J. W. & Bro.
Bucklew, J. A.,
Burrell, H. D.,
Burton, L.,
Carder, A.,
Chapman, J.,
Cheney, H. H.,
Christian, P. J.
Clarke, Rev. W. F.,
Connley, John T.,
Cook, Prof. A. J.,
Cripe, Henry,
Dadant, Chas.,
Dadant, C. P.,
Darby, M. E.,
Dayton, C. W.,
Decker, A. A.,
Demaree, G. W.,
Dibbern, C. H. & Son,
Dickason, T. B.,
Dittmer, Gus,
Dodge, U. E.,
Doolittle, G. M.,
Downs, Robert,
Drane, E.,
Dunham, P.,
Dunn, John,
Eaglesfield, E. C.,
Eastwood, L.,
Elwood, Sr., W. R.,
Feathers, Harvey,
Flanagan, E. T.,
England, P. J.,
Follett, Charles,
Forbes, W. E.,
France, E. & Son,
Freeborn, S. I.,
Fulton, W. K.,
Funk, H. W.,
Furness, Dwight,
Gander, A. M.,
Goodrich, A. S.,
Green, Charles H.,
Greening, C. F.,
Greiner, G. C.,
Greiner, Friedemann,
Gresh, Abel,
Grimm, Christopher,
Harlens, J. G.,
Harrison, S. H.,
Haskin, A. S., M. D.,
Hatch, C. A.,
Havens, Reuben,
Hayhurst, E. M.,
Heater, Mrs. J. N.,
Heddon, James,
Hensley, J. P.,
Hettel, M.,
Hill, A. G.,
Hills, Mrs. H.,
Hilton, George E.,
Hoke, Abe,
Hollingsworth, C. M.,
Howard, J. B.,
Hoyle, George H.,
Huse, Wm. H.,
Hutchinson, W. Z.,
Hyne, James M.,
Illinski, Dr. A. X.,
Isham, H. B.,
Jardine, Jas.,
Jones, George W.,
King, D. N.,
King, T. Frank,
Koeppen, August
Langstroth, Rev. L. L.,
Lanning, John,
Lawton, B. W.
Le Roy, J. W.,
Lindsly, L.
Ludkey, Charles,
Ludloff, K.,
Lynch, Jno. C.,
Maddox, W. T.,
Mahin, Rev. M.
Malory, S. H.,
Manum, A. E.,
Marden, Henry,
Margrave, J. W.,
Mason, Jas. B.,
Mattoon, Jas.,
McConnell, James,
McCormick, Emery,
McGee, Charles,
McLees, S.,
McNay, Frank,
McNeill, James,
Millard, D.,
Miller, B. J. & Co.,
Miller, Dr. C. C.,
Miller, Henry,
Mills, L. D.,
Minnich, F.,
Minor, N. L.,
Morse, William,
Muth Rasmussen, Wm.,
Nelson, James A.,
Newman, Alfred H.,
Newman, S. M.,
Newman, Thomas G.
Nipe, James,
Nutt, W. C.,
Owens, J. J.,
Parker, D. G.,
Pennoyer, L. A.,
Peters, Geo. B.,
Peters, Jno.,
Phelps, N. T.,
Pond, Jr., J. E.,
Powell, E. W.,
Pray, G. L.,
Rainey, Jarvis,
Ratsch, H.,
Reed, L.,
Rey, John,
Reynolds, M. G.,
Roberts, Jesse H.,
Root, A. I.,
Rose, C. H.,
Rowe, David,
Roye, Burr,
Schaper, E. F.,
Scheuring, Paul,
Seabright, L. C.,
Secor, Eugene,
Shapley, D. L.,
Shearmun, J. O.,
Shirley, W. H.,
Smith, George,
Snell, F. A.,
Spady, Jno.,
Spencer, M. L.,
Stearns, J. R.,
Stephenson, H. W.,
Stephens, W. B.,
Stewart, W. H.,
Stocker, Wm. S.
Stolley, Wm.,
Stordock, C. H.,
Storer, E. M.,
Talbert, M.,
Taylor, George,
Thatcher, Will.,
Theilmann, C.,
Thompson, Geo. M.,
Tinker, Dr. G. L.,
Tongue, L. N.,
Travis, F. W.,
Travis, I. A.,
Trimberger, John,
Turner, T. E.,
Tyner, Alonzo,
Vanhouten, C. W.,
Viallon, P. L.
Walton, Col. R.,
Webster, H. S.,
Weeks, C.,
Wendt, Henry,
Whitney, W. Y.,
Wicherts, A.,
Wilkins, Miss Lucy A.,
Wolcott, Wm. C.,
Wright, W. D.,
Zwiener H. L.

◆

☞ All who intend to be systematic in their work in the apiary, should get a copy of the Apiary Register and commence to use it. The prices are as follows:

For 50 colonies (120 pages)	$1 00
" 100 colonies (220 pages)	1 25
" 200 colonies (420 pages)	1 50

The larger ones can be used for a few colonies, give room for an increase of numbers, and still keep the record all together in one book, and are therefore the most desirable.

QUEENS by Return Mail!

AT THE FOLLOWING LOW RATES:

Bred from my **Best Strains** of **Italians** and **Albinos!**

Untested Queens	..........each	....	$ 1 00
" "	..........½ doz.	....	5 50
" "	..........1 "	....	10 00
Warranted "	..........each	....	1 10
" "	..........½ doz.	....	6 00
" "	..........1 "	....	11 00
Tested "	..........each	....	2 00
Selected Tested Queens	...... "	....	2 50

Descriptive Price-List free. Address all orders to

WM. W. CARY, - Coleraine, Mass.,
(Successors to Wm. W. Cary & Son.)

N. B.—On a single order for 50 Queens, we will give **10 per cent. discount** from the above list. 29Atf

---

A PRIZE.

Send six cents for postage, and receive free, a costly box of goods which will help you to more money right away than anything else in this world. All, of either sex, succeed from first hour. The broad road to fortune opens before the workers, absolutely sure. At once address TRUE & Co., Augusta, Maine.
51A1y

SYRIO-ALBINO QUEENS.

APIS AMERICANA.—Orders for Queens of the beautiful **SYRIO-ALBINOS**, will now be received. Reared by my **new method**, all are large and fine and perfect. We have made a great discovery in Queen-Rearing, and hereby challenge the production (by natural swarming or otherwise) of Queens that will excel ours in any valuable quality. Isolated 3 miles from other bees. First come, first served. Send for circulars.

DR. G. L. TINKER,
1Atf New Philadelphia, Ohio.

Bees and Queens

HAVING purchased all the black bees within a radius of 8 miles, I now claim the LARGEST ITALIAN APIARY and best location for rearing **FINE QUEENS** in the State. I will continue to sell warranted Queens at the low price of **75** cents each. Extra selected tested (1885 rearing) **$1.50** each. Three L-frame Nuclei, every frame filled with brood, with selected tested Queen, **$3** each.

Address JAS. WOOD, North Prescott, Mass.
29A9t

FLAT-BOTTOM
COMB FOUNDATION,

high side-walls, 4 to 16 square feet to the pound. Circular and samples free.

J. VAN DEUSEN & SONS,
Sole Manufacturers,
Sprout Brook, Mont. Co., N. Y.

HELP

for working people. Send 10 cents postage, and we will mail you *free*, a royal, valuable sample box of goods that will put you in the way of making more money in a few days than you ever thought possible at any business. Capital not required. You can live at home and work in spare time only, or all the time. All of both sexes, of all ages, grandly successful. 50 cents to $5 easily earned every evening. That all who want work may test the business, we make this unparalleled offer: To all who are not well satisfied we will send $1 to pay for the trouble of writing us. Full particulars, directions, etc., sent free. Immense pay absolutely sure for all who start at once Don't delay. Address STINSON & CO.
51A1y Portland, Maine.

BEES for SALE

MRS. J. N. HEATER,
35A3t **COLUMBUS, NEBR.**

FOLDING PAPER-BOXES.

Bee-keepers who desire to put their honey on the market in the most attractive manner, should use the **Folding Paper Box.** Read what the Editor of this paper says concerning this box, on page 531. Sample box, by mail, 5 cts. Send for circular and prices.

GEO. T. HAMMOND,
35Atf BROCKPORT, Monroe Co., N. Y.

Bee-Hives, Sections & Honey-Boxes
GREAT REDUCTION.

DEALERS and large consumers will find it to their interest to write us for special stocking-up prices—either for present or future delivery.

G. B. LEWIS & CO.,
34ABtf WATERTOWN, WIS.

Dadant's Foundation Factory, wholesale and retail. See Advertisement in another column

---

BEE-KEEPERS' GUIDE;

Or, MANUAL OF THE APIARY.

12,000 SOLD SINCE 1876.

13th Thousand Just Out!

10th Thousand Sold in Just Four Months

3,000 Sold Since May, 1883.

More than 50 pages, and more than 50 fine illustrations were added in the 8th edition. The whole work has been thoroughly revised, and contains the very latest in respect to bee-keeping. It is certainly the fullest and most scientific work treating of bees in the World. Price, by mail, **$1 25.** Liberal discount to dealers and to clubs.

A. J. COOK, Author and Publisher,
1C1y Agricultural College, Mich.

☞ For sale also at the Office of the BEE JOURNAL, at wholesale or retail.

Friends, if you are in any way interested in

BEES OR HONEY

We will with pleasure send a sample copy of the **Semi-Monthly Gleanings in Bee-Culture,** with a descriptive price-list of the latest improvements in **Hives, Honey Extractors, Comb Foundation, Section Honey Boxes,** all books and journals, and everything pertaining to Bee Culture. *Nothing Patented.* Simply send your address *written plainly,* to
Ctf A. I. ROOT, Medina, O.

HEADQUARTERS IN THE SOUTH

For the manufacture of

Bee-Keepers Supplies

Dunham and Root Foundation a specialty. Italian Queens and Bees from March to November. ☞ Send for my illustrated Catalogue.
5Ctf **PAUL L. VIALLON,** Bayou Gonla, La.

(ESTABLISHED 1864.)

BEE-SUPPLIES.

We furnish EVERYTHING needed in the Apiary, of practical construction, and at the **lowest price.** Satisfaction guaranteed. Send your address on a Postal card, and we will send you our Illustrated Catalogue free. **E. KRETCHMER.**
2C12t COBURG, IOWA.

"PRIZE QUEENS!"

ITALIAN QUEENS, tested, warranted, and fertilized, for sale at usual prices. Also Nuclei colonies, 2 frames each. Send for Circular. Dollar Queens ready to ship on one week's notice.
27D6t **E. L. BRIGGS.** Wilton Junction, Iowa.

My 17th Annual Price-List of Italian, Cyprian and Holy-Land Bees Queens and Nuclei colonies (a specialty): also Supplies—will be sent to all who send their names and addresses. **H. H. BROWN,**
17Dtf Light Street, Columbia County

THE BRITISH BEE JOURNAL
AND BEE-KEEPER'S ADVISER.

The BRITISH BEE JOURNAL is published SEMI-MONTHLY, at Seven Shillings per annum, and contains the best practical information for the time being, showing what to do, and when and how to do it.

The British Beo Journal and our Weekly for $3.50; with our Monthly, $2.00 a year.

ELECTROTYPES

Of Engravings used in the Bee Journal for sale at 25 cents per square inch—no single cut sold for less than 50c. **THOS. G. NEWMAN & SON,**
923 & 922 West Madison Street, Chicago, Ill.

LOS ANGELES.

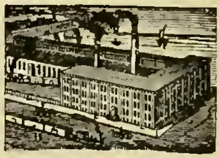
HOMES IN SOUTHERN CALIFORNIA.

"Stern winter smiles on that auspicious clime,
The fields are florid with unfading prime;
From the bleak pole no winds inclement blow,
Mould the round hail or flake the fleecy snow;
But from the breezy deep the bless'd inhale,
The fragrant murmurs of the western gale."
—Homer.

FULL information concerning the garden spot of the world, beautiful LOS ANGELES, THE LIVELIEST AND MOST PROSPEROUS SECTION OF THE PACIFIC COAST, furnished by the Los Angeles **Weekly Mirror** a mammoth 72 column PAPER, the best weekly in Californa. SEND FOR IT. Single copy, three two-cent stamps; six months, **$1**; one year, **$2.**

Address THE TIMES-MIRROR CO.,
25A13t Los Angeles, Calif.

BARNES' FOOT-POWER MACHINERY.



Read what J. I. PARENT, of CHARLTON, N. Y., says—"We cut with one of your Combined Machines last winter 50 chaff hives with 7 in. cap, 100 honey racks, 500 broad frames, 2,000 honey boxes and a great deal of other work. This winter we have double the amount of bee hives, etc., to make and we expect to do it all with this Saw. It will do all you say it will. Catalogue and Price List Free. Address W. F. & JOHN BARNES, No. 196 .. Ruby street, Rockford, Ill.

THE HORSE,

By B. J. KENDALL, M. D.

A TREATISE giving an index of diseases, and the symptoms; cause and treatment of each, a table giving all the principal drugs used for the horse, with the ordinary dose, effects and antidote when a poison; a table with an engraving of the horse's teeth at different ages, with rules for telling the age of the horse; a valuable collection of recipes, and much valuable information.

Price 25 cents—in English or German.

THOS. G. NEWMAN & SON,
923 & 925 West Madison St., CHICAGO, ILL.

FOR SALE OR EXCHANGE.

Improved Stock Farm 90 miles from Chicago. Will sell cheap for cash or exchange for stock of goods—or western land. Address,
30A6t **T. J. CAIRNS & CO.,** Janesville, Wis.

---

60 New Style, Embossed Hidden Name and Chromo Visiting Cards, no 2 alike, name on, 10c., 13 packs $1; warranted best sold. Sample book, **4c.** L. JONES & CO., Nassau, N. Y.
11A1y

Fruit-Farm & Apiary

FOR SALE CHEAP!

96 ACRES, hill-land, ⅓ well-stocked with apples, peaches, pears, plums, quinces, grapes, and small fruit, in fine bearing condition. The remainder in pasture, grass, grain, etc. Apiary contains **140 ITALIAN COLONIES** in Langstroth hives. Bee-house and all modern appliances for apiculture, in as good location for bees and honey as can be found. Good 10-room house, beautifully located, commanding a view of the city, river and surrounding country. New barn and out-buildings, cistern, never-failing springs, etc. Reason for selling—age and ill-health.

33A6t **S. A. STILLMAN, LOUISIANA, MO.**

Bee-Keepers' Badges at Fairs.

We have some **ELEGANT RIBBON BADGES,** having a rosette and gold Bee, for bee-keepers' use at Fairs, Conventions, etc. Price 50 cents each, by mail, postpaid.

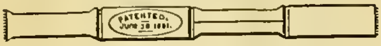
THOMAS G. NEWMAN & SON,
923 & 925 West Madison St., CHICAGO, ILL.

☞ **Send for Circular** of the Rarest Books on Earth.
(box 14) B. G. STAUFFER, Bachmanville, Pa
12B1y

"BOSS" ONE-PIECE

SECTIONS.

Patented June 28, 1881.


PATENTED, JUNE 28 1881.

One-lb. (4¼x4¼) in lots of		500 to 4,000	$5.00
Ditto	Ditto	5,000 to 10,000	4.50
Ditto	Ditto	10,000 to 25,000	4.00

The one-lb. Section is 17 inches long. For any sizes between 17 and 20 inches in length, add 5 per cent. For any sizes between 20 and 24 inches, add 10 per cent. Add the above per centage to the price of one-lb. Sections in the same quantities.

We make any size or width desired.

J. FORNCROOK & CO.,

BCtf Watertown, Wis., Mar. 1, 1885.

☞Thos. G. Newman & Son, of Chicago, sell the one-piece Sections manufactured by us.

RED CLOVER QUEENS

by return mail.—I am now up with my orders, and can send Queens by **return mail.** My Queens are almost without an exception purely mated. My bees have worked just thick on red clover, from the time it bloomed until the present time.

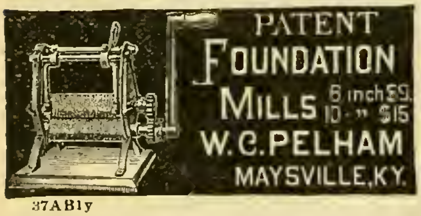
30ABtf **J. T. WILSON,** Nicholasville, Ky.

NEW ONE-POUND HONEY PAIL.

THIS **new size** of our Tapering Honey Pails is of uniform design with the other sizes, having the top edge turned over, and has a bail or handle,—making it very convenient to carry. It is well-made and, when filled with honey, makes a novel and attractive small package, that can be sold for 20 cents or less. Many consumers will buy it in order to give the children a handsome toy pail. **PRICE, 75 cents per dozen, or $5.00 per 100.**

THOS. G. NEWMAN & SON,

923 & 925 West Madison St., CHICAGO, ILL.



37ABly

$200,000 *in presents given away.* Send us 5 cents postage, and by mail you will get *free* a package of goods of large value, that will start you in work that will at once bring you in money faster than anything else in America. All about the $200,000 in presents with each box. Agents wanted everywhere, of either sex, of all ages, for all the time, or spare time only, to work for us at their own homes. Fortunes for all workers absolutely assured. Don't delay. H. HALLETT & CO.

51Aly Portland, Maine.

Muth's Honey Extractor,

Square Glass Honey Jars, Tin Buckets,
Langstroth Bee-Hives, Honey-Sections, etc.

Apply to **CHAS. F. MUTH,**
Freeman & Central Ave., - CINCINNATI, O.

☞Send 10c. for Practical Hints to Bee-Keepers.

BEESWAX.

We pay **20c.** per lb., delivered here, for yellow Beeswax. To avoid mistakes, the shipper's name should always be on each package.

THOS. G. NEWMAN & SON,

923 & 925 West Madison Street, CHICAGO, ILL.

HUTCHINSON'S ADVERTISEMENT

WE ARE now making a specialty of rearing fine **ITALIAN QUEENS.** All Queens are bred from the purest and best of mothers, and the cells built in full colonies. We have one of A. I. Root's very best, selected, tested, imported Queens; also quite a number of very superior home-bred Queens from the apiary of "Cyula Linswik;" besides this, we have our own original stock, which was built up from Dadant imported stock, and from Queens obtained from several of our best breeders. We are not trying to see how cheaply we can rear Queens, but what **GOOD** ones we can furnish. No Queens will be sent out that would not be used in the home apiary. Single Queen, $1.00; six for $5.00; twelve or more, 75c. each. Tested Queens, $2.00 each. Full colonies, $5.00 each. Make money orders payable at Flint. Address

W. Z. HUTCHINSON,

30Atf Rogersville, Genesee Co., Mich.

THE INVERTIBLE HIVE!

INVERTIBLE FRAMES,

Invertible Surplus Honey Cases,
Entrance Feeders, Top and Bottom Feeders,
Hive-Lifting Device, Honey Extractors,
Wax Extractors, Comb Foundation, etc.

☞ My new Illustrated Catalogue is now ready, and will be mailed to all who may apply for it. Address,

J. M. SHUCK,

10Aly **DES MOINES, IOWA.**

WIN more money than at anything else by taking an agency for the best selling book out. Beginners succeed grandly. None fail. Terms free. HALLETT BOOK CO.

51Aly Portland, Maine.

Bee-keepers' Supplies,

Standard Langstroth,

Quinby Standing-Frame,

And all other kinds of **Hives,**

MADE TO ORDER,

Quinby Smoker a specialty.

I shall supply anything you need in the Apiary. Send for Illustrated Price List.

W. E. CLARK, successor to L. C. Root,

7Aly ORISKANY, Oneida County, N. Y.

Dadant's Foundation Factory, wholesale and retail. See Advertisement in another column.

1868. 1885.

HEDDON'S COLUMN.

HONEY FOR SALE!

Since the recent great losses of bees, many bee-keepers have not enough Honey to supply their Local Demand, and, appreciating the IMMENSE IMPORTANCE of keeping such demand supplied, I offer such a fine article of White Clover or Basswood Extracted Honey, at the following price, **for CASH with the order:**

100 Pound Kegs (net) each	$8 00
50 " " " "	4 00

☞ Free on board the cars, and no charge for kegs. Order in large kegs when you can.

QUEENS

I am now prepared to SUPPLY PROMPTLY, Queens, reared from PURE ITALIAN mothers, with good chance of pure fertilization. Also, those of our own popular strain, viz: Crosses between our leather-colored Italians and large brown German bees, which possess, in an eminent degree, the desirable traits of the two races.

PRICES:

1 Selected Tested Queen	$ 2 00
6 " " Queens	10 00
12 " " "	18 00
1 Untested Queen	1 00
6 " Queens	5 00
12 " "	10 00

NUCLEI.

My nuclei colonies are in a complete little nucleus hive with 4 frames, so constructed that by removing their outer top-bars, two of them perfectly fit a standard L. frame on the inside. They are in first-class condition, well stocked with Brood and Bees, and will be sent promptly at the following

LOW PRICES:

1 Nucleus, with best tested Queen	$ 4 00
6 Nuclei, " " " Queens	21 00
12 " " " " "	40 00
1 Nucleus, with untested Queen	3 00
6 Nuclei, " " Queens	16 00
12 " " " "	30 00

Take your choice between Pure Italians and my own strain of bees.

Address, **JAMES HEDDON,**
DOWAGIAC, Cass County, MICH.

WEEKLY EDITION
OF THE
AMERICAN
ESTABLISHED IN 1861
OLDEST BEE PAPER IN AMERICA
BEE JOURNAL

THOMAS G. NEWMAN,
EDITOR.

Vol. XXI. Sept. 9, 1885. No. 36.

APICULTURAL NEWS ITEMS.

EDITORIAL AND SELECTED.

Give us men! A time like this demands Strong minds, great hearts, and ready hands.

The Northwestern Bee-Keepers' Society will hold its annual convention in Chicago, Ills., on Wednesday and Thursday, Oct. 14 and 15, 1885—the first meeting being held at 10 a. m. The place of meeting will be announced next week.

Mr. G. W. Demaree remarks thus about the sheep-bees lawsuit: "If bee-keepers will take care of their rights *now*, they need not fear; but indifference may place them in like position to the fleet-footed hare that was beaten by the creeping tortoise. Let us profit by that old fable!"

Mr. Geo. E. Hilton, of Fremont, Mich., knows how to use printer's ink. The Muskegon *Journal* contains one-third of a column concerning his apiary and honey, and advises all its readers to get honey with Mr. Hilton's label on it, and thus obtain the finest, purest and best in the world. That is one of the many very excellent methods of building up a home market, and probably only costs two or three nice boxes of honey (which was given to the reporter). He commenced the season with 45 colonies, increased them to 88, and has obtained from them about 6,000 pounds of honey.

SPECIAL NOTICE.—On January 1, 1886, the price of the Weekly BEE JOURNAL will be reduced to *One Dollar a Year.* This we have contemplated for some years, and only awaited the proper time to warrant us in issuing the Weekly BEE JOURNAL at the very low price of *one dollar* a year. That time has now come. We shall continue to improve the BEE JOURNAL, and it will maintain its proud position as the leading bee-paper of the World!

New subscribers will be supplied with the Weekly from now until the end of the year 1886, for **$1.25.**

Those who have already subscribed for any portion of *next year* will have the time beyond January 1st doubled. These changes in the mail-list type will be made by Oct. 1.

Are Workers Abortions?—The following occurs in an essay on "Physiography in its application to grape culture:"

"Great men, as well as common folks, sometimes make great mistakes. Huber asserted that the neuter or working-bee, was nothing more nor less than 'an imperfect female.' That is mere conjecture, and will not answer in this matter-of-fact age. God never made whole races of his creatures mere abortions. He permits monstrosities occasionally, but never made so gross a mistake in the organism of an entire class."

The author of this paragraph ascribes to Huber sentiments which he never expressed or entertained. In his work entitled "Observation on Bees," he says:

"The discovery of fertile workers, made by Riem and confirmed by my own investigations, led me to conjecture that the entire class of workers pertained to the female sex. Nature makes no sudden leaps. The fertile workers lay drone-eggs only, like those queens whose fecundation has been unduly delayed. One step farther and they might be altogether sterile, without being the less feminine essentially. *I do not regard the workers as abortions or imperfect creatures.* They are endowed with too many noble faculties, too much unwearied industry and activity, and from their instincts spring too many marvels to permit me to consider them as abnormities of their kind, or as imperfect beings in comparison with the queens. I believe that a rational philosophy will yet be able to reconcile all these difficulties."

This is widely different from the views ascribed to him, and is fully sustained by subsequent discoveries. To him, the workers appeared to be just what subsequent microscopic examination proved them to be—merely undeveloped females. Another critical writer remarks that it is "doubtless true that, if regard be had only to mere *animal* qualities, the queen is, in that direction more fully developed than the worker, and thereby becomes qualified to discharge properly her peculiar functions—*the perpetuation of the race.* This, however, does not constitute her a more perfect insect, absolutely, than the worker. The latter is quite as admirably adapted for her appropriate duties, and is, therefore, as regards the purpose and end of her being, as perfectly organized and as fully developed as the former. Both certainly proceed from the same kind of egg. Development proceeds in each in like manner, and in the same direction, from the hatching of the egg up to a certain point. Thence, owing to the circumstances in which each is placed and the influences to which it is subjected, development diverges and tends to different issues. In the queen it culminates *corporeally*, in the maturation of animal functions and procreative power. In the worker, it is made to take a different direction; the growth of physical organism is repressed indeed, but instead thereof, her physical qualities, or what may be termed her mental faculties, are extraordinarily unfolded and intensified. Hence, if manifestation of mind, however subordinate in grade or qualified in character, be entitled to higher consideration and regard than mere corporeal qualities or physical organization, the worker might claim a more elevated rank in the sphere of development than the queen, whose physical endowments are certainly of a lower order, and limited to a narrower range. Each, however, is perfect, as regards herself, her assigned relations, and the purpose and design of her existence.

"It is precisely this undeveloped femininity of the workers, and the bringing out, instead, of other and higher faculties, which qualifies them for the functions devolved on them by the Creator—that of foster-mothers, protectors of the brood, and providers for the subsistence and *preservation of the family.* Whereas the sexually more fully developed inmates of the hive—the queen and the drones—physically less endowed, are designed and serve for the *perpetuation of the race.* Each kind has its proper sphere, each its appropriate duties assigned to it; and, by its organization and instincts, each is specially and fully qualified to discharge these duties. The proclivities, qualifications and habits of each are, in the main, as distinct and characteristically different from those of the others, as if each belonged to an entirely different class of insects. Yet the three kinds are so yoked together—so interwoven in action, so fitted for each other, so dependent on each other, and so complementary to each other, that neither could permanently exist without the co-existence—at certain seasons at least—of both the others."

When beeswax is chewed, says an exchange, it should have no disagreeable taste and must not stick to the teeth. In the adulterated wax, the nature of the foreign material can generally be detected by the taste; the addition of fat can generally be readily detected. If it sticks to the teeth, the presence of resin may be assumed. A simple method of detecting the presence of fat in wax consists in melting it, and placing a drop on a piece of woolen cloth. After it is perfectly cold and solidified, pour on a few drops of 90 per cent. of alcohol and rub the cloth between the hands. The wax will be converted into dust, and will easily separate from the cloth if it contains no fat, and will leave no stain; when it contains fat it will leave grease-spots.

The Rural New Yorker of this week is a treasury of fertilizing knowledge. It is a special number devoted to the whole story of how plants grow; what elements the plant *must* find in the soil to produce good crops, and showing from what source can, in the best and cheapest manner, be obtained such of them as are missing, or nearly exhausted, in the soil. Our readers cannot afford to neglect so important a subject; and, to post themselves, should send for a copy, which will be mailed them *free.* Address, 34 Park Row, New York.

We have received from Messrs. Cupples, Upham & Co., publishers, Boston, Mass., a poultry pamphlet, price 50 cents, which is made up of a phonographic report of the addresses and discussions at a meeting of the best and most widely known poultry experts in the country, held in the interest of this important industry, at Boston, on two successive Saturdays, March 7 and 14, 1885. Its fresh and peculiar value will be found in the fact that the observations are those of experienced and practical poultry raisers, in place of mere poultry fanciers—of actual farmers, rather than of amateurs. It will prove to be encyclopædic in its suggestions respecting the choice, the breeding, and the care of poultry, and will readily show that it abounds in the very kind of advice of which all poultry raisers are in constant pursuit.

QUERIES

WITH

REPLIES by Prominent Apiarists.

Fertilizing Queens.

Query, No. 108.—1. How many queens can be fertilized in one nucleus colony in one month? 2. Can one queen be fertilized, and shipped from a nucleus colony every week?—S. H.

We think if you rear 2 queens in a month, you will be doing well. Introducing virgin queens from an incubator is an unsafe method, although many claim to succeed.—Dadant & Son.

1. A queen every 14 days is about my average. Some nuclei do better, others not as well. 2. No; not by any process that I know of.—G. M. Doolittle.

No definite time can be given, so much depends upon the weather, number of drones, and quick mating.—Prof. A. J. Cook.

1. That depends upon the flow of nectar and the strength of the nucleus. Again, some queens do not take their bridal trip for 7 or 8 days, and never before 5 days after hatching. I should say about 3 queens in a month at the best. 2. No; not if allowed to lay before introducing another.—Dr. G. L. Tinker.

1. That depends very much upon circumstances. Queens are sometimes lost when taking their "wedding flight," and sometimes "balled" to death by the bees. In view of all the accidents that may befall the young queen, I should say one, two or three at the most. That may look indefinite, but it *is just* that way. Queen-rearing is not the lucrative business that many imagine it is. 2. No.—G. W. Demaree.

1. It will depend wholly and entirely upon the condition of the nucleus, the state of the weather, and the chances of loss while on the mating trip. 2. Yes, if the conditions are all right, and good luck attends the operation. In some seasons more than half the queens are lost on their wedding tour; in others the loss is very slight indeed.—J. E. Pond, Jr.

I should not expect to average over two. Sometimes queens are quite slow in becoming fecundated. Again, I like to have them lay in the combs 5 or 6 days before shipping. If the queen is taken out when the combs contain only her eggs (as it sometimes happens), the bees are liable to devour them; when, if a part have hatched with larvæ, all are preserved.—James Heddon.

Queens usually lay when 10 days old. I usually allow a queen to lay a day or two before shipping her. Taking the whole season through, I find that a queen ever two weeks would be nearer the average than one every week. If a queen 4 or 5 days old were introduced at the time of shipping the laying queen, it would be possible to ship a queen every week; but I have had poor success introducing queens more than 2 days old.—W. Z. Hutchinson.

Consumption of Honey by Bees.

Query, No. 109.—1. How much honey will one pound of bees eat in 24 hours? 2. How long will a pound of bees live on the honey with which they fill themselves when caged?—T. S.

1. I have had no experience with this. 2. If placed in a dark, cool place, they will live about 4 days.—G. M. Doolittle.

1. I could not tell exactly. I always put up too much, and then feel safe. 2. I think that they will live about 36 hours.—James Heddon.

1. Bees knocked about in a cage will eat more than when quiet in their hives. If the cage were well agitated, a pound of bees might consume an ounce of honey in 24 hours. 2. Thirty or forty hours.—Dr. G. L. Tinker.

Any answer is, in a measure, theoretical. A test, of course, would decide it, but it will be almost an impossibility to make such test thorough and complete; and when made it would prove so expensive that the ascertained results would not pay for the time and trouble.—J. E. Pond, Jr.

1. The question is indefinite. In the absence of brood less than one ounce of honey will sustain a pound of bees 24 hours. 2. A pound of empty bees, when thoroughly filled with honey, will weigh two pounds. According to this, they ought to carry enough honey at one aggregated load to sustain life over 16 days, if they could utilize the honey in the absence of some place besides their honey-sacs to store it. I have found that the ordinary package of bees—called a "pound"—can be shipped to any point in the United States or Canada on less than a half-pound of properly made soft candy.—G. W. Demaree.

1. I do not know, only it will vary greatly. 2. This will also vary; often more than one hundred.—Prof. A. J. Cook.

Black, Shiny Bees.

Query, No. 110.—What is the cause of the heads and abdomens of young bees being black and shining as though having been hit, dragged out and killed by perfect bees; what is the cure for it?—W. G.

Possibly worms had been at work in the combs, and injured the young bees.—Dr. C. C. Miller.

I have never had a case of this kind. I suppose it might be caused by worms or chilling of the brood.—James Heddon.

I have never found this true. Old bees are often so. The hair becomes pulled out; or in age they become bald. Why not?—Prof. A. J. Cook.

I have often seen old bees with black and shining abdomens, but never "young bees."—Dr. G. L. Tinker.

Bees that are partly crushed between the combs of honey in manipulating the hive, look thus when liberated, and are treated by the other bees as described.—G. M. Doolittle.

The best answer I know of to this question is found in "Dzierzon's Theory." It would require a larger amount of space than can be given here to give a comprehensive answer.—J. E. Pond, Jr.

We think that you are mistaken in supposing these to be young bees. The bees whose heads and abdomens are shining are some of the very oldest bees. They are usually somewhat smaller than the healthy bee, and their wings often show that they have worn themselves out. The cause of their being so shiny is, that they have lost their hair by much travel. Robber bees are the worst looking in this respect.—Dadant & Son.

I believe such specimens of bees as you describe is the out-cropping of impure blood in the parent bees. I have seen specimens of these out-cropping bees that were as black and shiny as a polished boot; and I have seen them as green as a green bottle. The only cure for it is to change the blood of the bees. A few such bees in a colony have never hurt the working quality of the colony, so far as I have seen.—G. W. Demaree.

Local Convention Directory.

1885. *Time and place of Meeting.*

Sept. 8—12.—Iowa State, at DesMoines, Iowa.
Wm. Goos, Sec., Davenport, Iowa.

Sept. 10.—Patsalaga, at Ramer, Alabama.
M. G. Rushton, Sec., Ralf Branch, Ala.

Sept. 23, 24.—Kentucky State at Covington, Ky.
J. T. Counley, Sec., Napoleon, Ky.

Oct. 10.—Wabash County, at N. Manchester, Ind.
J. J. Martio, Sec., N. Manchester, Ind.

Oct. 10, 11.—Western, at Independence, Mo.
C. M. Crandall, Sec., Independence, Mo.

Oct. 14, 15.—Northwestern, at Chicago, Ills.
W. Z. Hutchinson, Sec.

Oct. 15.—Progressive, at Macomb, Ills.
J. G. Norton, Sec., Macomb, Ills.

Nov. 5, 6.—N. J. & Eastern, at Trenton, N. J.
Wm. B. Treadwell, Sec., 16 Thomas St., N. Y.

Dec. 8—10.—Michigan State, at Detroit, Mich.
H. D. Cutting, Sec., Clinton, Mich.

Dec. 8—10.—North American, at Detroit, Mich.
W. Z. Hutchinson, Sec., Rogersville, Mich.

☞ In order to have this table complete, Secretaries are requested to forward full particulars of time and place of future meetings.—Ed.

The Illinois State Fair will be held in Chicago during the week commencing Monday, Sept. 14, 1885, and promises many attractions.

☞ We want one number each of the Bee Journal of August, 1866—February, 1867.

CORRESPONDENCE.

Explanatory.—The figures BEFORE the names indicate the number of years that the person has kept bees. Those AFTER, show the number of colonies the writer had in the previous spring and fall, or fall and spring, as the time of the year may require.

This mark ⊙ indicates that the apiarist is located near the centre of the State named: ♁ north of the centre; ♀ south; O+ east; +O west; and this ♂ northeast; ~O northwest; O~ southeast; and ♀ southwest of the centre of the State mentioned.

For the American Bee Journal.

Fertilization of Queens.

REV. M. MAHIN, D. D.

Mr. Henry Alley, in his very valuable "Handy-Book of the Apiary," expresses the opinion that if one has a considerable number of colonies of Italian or Syrian bees, and half a mile away there are numerous colonies of black bees, not one queen in 25 will be mismated. From this opinion I must respectfully dissent. If one has a small number of one race of bees, and from one to two miles away there are a considerable number of another race, it is not uncommon, as I know by observation, for one-half the young queens to mate with drones of the other race. When I had the only Italian bees in this vicinity, a black queen five miles away produced banded bees; and it is almost an absolute certainty that she had mated with one of my drones.

It is impossible to tell with any certainty how far drones and queens will fly. It is probable that the former fly several miles, and queens may fly further than is generally supposed. It is my opinion that a young queen is never fertilized on her first flight, no matter how many drones there may be in the air in the vicinity of her hive. I have watched a great many for the purpose of finding out all that may be known concerning their habits, and my observations are to the following effect:

A young queen, before she comes out in earnest, familiarizes herself with the locality of her hive. She comes out and flies around in the vicinity of the hive for not more than five minutes at a time, and then enters the hive and remains for about five minutes. During the time she is on the wing, she may be observed to approach her hive, in some cases several times, without entering, and she is probably not out of sight of it at any time. I have observed five of these five-minute excursions in less than an hour; but I have never known a queen to return, having mated with a drone in less than 17 minutes from the time she left the hive. I do not say that they never do mate and return in less time than that, but none that I have observed have done so. This gives a queen time to travel several miles, if need be, and her frequent short flights seem designed to enable her to take a longer flight, if necessary, without getting lost.

Now I venture the opinion that, other things being equal, a queen is quite as likely to mate with a drone belonging to a colony half a mile or more away as with one from a colony in the same apiary. The instinct that prompts the queen and drone to fly abroad, prompts them to leave the vicinity of their homes, and thus prevents in-and-in breeding.

I think it beyond dispute that drones have places of *rendezvous*, where, from I know not how far, they congregate. In my early bee-keeping days, from 12 to 15 years ago, the place of meeting was in the edge of a woods a quarter of a mile east of my house. In 1883 and 1884 the play-ground seemed to be partly over my own premises, and this year over a woods pasture just south of my place. Now, it is a question of some importance whether in a given locality there may not be more than one place of congregating, and also whether the resort of my drones may not be farther away than that of some other drones. In that case my queens would be more likely to meet drones from a neighbor's apiary than from my own.

The above facts and surmises have a bearing upon what I am about to relate. I had in the spring 30 colonies of bees, all except a very few were Syrians, the rest being Italians. There were but 2 colonies showing any black blood, and I presume that in an area of two miles in diameter there are not as many colonies of bees belonging to other persons as I have, and I am confident that there is not a colony of blacks within half a mile. I have purposely allowed my bees to have a liberal supply of drone-comb, and the number of drones has been large; and yet, out of 31 queens reared, 23 have mated with black drones, and of the 8 remaining 2 or 3 are doubtful.

I have never before had such an experience, and I am at a loss to account for it. Have black drones come from a mile or so away and established a resort into which my queens have gone? Or have my queens passed by the resort of their male neighbors, and gone to that of the drones of some other locality? Or is there somewhere in this vicinity a colony of blacks having drones that are more amorous and enterprising than my Italians and Syrians? One of these hypotheses must be true, but which one I have vainly tried to ascertain. Can any of our apiarian *savants* throw any light upon it? There is no doubt at all that these queens mated with *black* drones, and not with mixed ones, because they produce many bees that are entirely black; and the queens themselves are pure Syrians and Italians.

It is commonly recommended to rear queens early in order to have them purely mated. In this I have generally failed. My early queens would not mate with my early drones until the weather became warm—almost hot—and by that time black drones were plentiful. More of my queens are purely mated in the late summer and early autumn than in the earlier months. The reason may be that at that time drones and queens do not venture so far from home. I hope to supplant my mongrels by purely-mated queens before the season closes.

New Castle, O+ Ind., Aug. 22, 1885.

For the American Bee Journal.

Excellent Season so Far.

B. T. BALDWIN.

I commenced the season of 1885 with 39 colonies, sold one, and bought one 4-frame nucleus. I divided 3 other colonies for queen-rearing, so I did not obtain any honey from them. I have sold $102 worth of bees, have taken 5,400 pounds of extracted honey, and have increased my apiary to 75 good colonies. My bees made some of the largest daily gains that I ever heard of, from English clover.

Basswood bloomed here on June 29, and ceased blooming on July 8. It did not seem to secrete much honey in proportion to the amount of bloom; or if it did my bees failed to pay the necessary attention to it. I got only two barrels of honey with basswood flavor, and could scarcely tell, by the bees, when it ceased to secrete honey.

On July 10 I put a fair colony of hybrid bees on the scales, and it gained 24½ lbs. that day; on July 11, it gained 28 lbs.; on the 12th, 31 lbs.; on the 13th, 27 lbs.; on the 14th, 23 lbs.; on the 15th, 11 lbs.; on the 16th, 4 lbs.; and on the 17th they lost 1½ pounds.

All of this was from English clover, making 148½ pounds in seven days. I had more than a dozen men to time them, and they all say that the colony did not gain less than 2 pounds in any hour of any day that they were timed; and the colony was not nearly my very best. I had nine combs in the upper story, and exchanged empty combs at night for full ones; and I believe if I had taken as good care of all the rest, some of them would have done better than this particular colony.

Last fall, when I packed my bees for winter, there was one little colony of hybrids that I intended to unite to some other colony; but when I opened the hive they had 12 pounds of honey in four combs, and about 2 quarts of young bees, so I thought that I would try and winter them. To my surprise this spring they were as healthy as any colony in my apiary, and began to breed lively when clover commenced to bloom. I put them in a Heddon hive with a crate of 28 one-pound sections, and when they had the foundation drawn out, I raised up the crate and put on another; and they had them both finished in a short time, excepting 8 sections, when I took the crates off and put on an extracting super, and I extracted 175 pounds after that.

The grass-hoppers have ruined the clover-seed crop in this locality this year. I do not think that there will be a bushel of seed in this county. They cut off the blossoms,so the black bees worked on the red clover.

Marion,⊙ Ind., Aug. 26, 1885.

Gleanings.

Gall-Mites on Plum-Trees.

PROF. A. J. COOK.

A few days since I received some plum leaves covered with galls on the under surface. They came from F. A. Snell, of Milledgeville, Ills., who writes that they are very abundant on some wild plum-trees in his yard. He asks whether there is any danger of their attacking the leaves of his tame plum-trees. I at once recognized these galls as the excrescences formed by the gall-mite, a species of *Phytoptus*. These are injurious to the trees which they infest; and as the wild and cultivated plum are so closely related, there must be danger that an insect which attacks one will also attack the other if in the vicinity.

The galls are on the upper side of the leaves, and are hairy, teat-like processes, often so crowded as to be in clusters of five or six in a place. They are yellowish or brown in color, though the color may have changed somewhat, as the leaves were considerably dried up. The leaves appear as seen in Fig. 1. These galls are often on the under side of the leaves, so that the mites can leave the galls and pass out to a new place on the leaf, where by irritation a new gall is formed. The mites which, for these galls, are so minute that they are hardly visible to the unaided vision (they are oblong, Fig. 2), have four feet and four pairs of hairs on the body. These mites lay eggs in the galls, which produce other mites, and thus the galls become very numerous during the season.

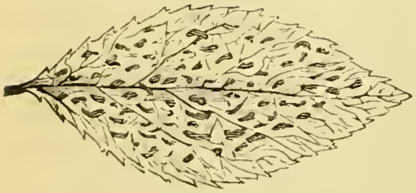


FIG. 1.

It is of more interest to bee-keepers to know that our maples and basswoods suffer from species of *Phytoptus*. *Phytoptus abnormis*, Garman, attacks the basswood. *P. quadripes*, Shimer, the soft maple, and *P. acericola*, Garman, the sugar maple. A soft maple in our College apiary is badly attacked by these mites.

These mites, as will be seen above, have only four legs, while all other mites (mites are the lowest order of the sub-class *Arachnoids*) have eight legs. There are many mites of interest to us. The sugar and cheese mites work on the articles of food which gave the names. The itch mite causes the pustules on the hands, usually between the fingers of persons suffering from that disgusting disease. The red spider is a species of mite, which is often very injurious to house-plants when kept in *very dry* rooms, and to evergreens, and other plants and trees in very dry seasons. Frequent and copious drenchings with pure water will usually destroy these red spiders.

The remedies for the *Phytopti* are, sprinkling with sulphur, and picking and burning affected leaves, or burning the entire plants and tree. Picking the leaves is the best plan, if commenced as soon as the galls are seen.

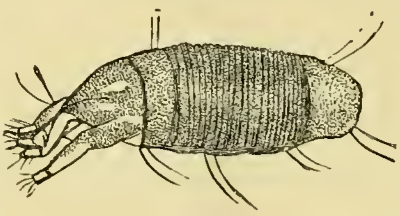


FIG. 2.

Agricultural College,♀ Mich.

For the American Bee Journal.

Human Enemies of Bees.

HENRY ALLEY.

In adding my name to the list of those who have joined the "National Bee Keepers' Union," I would like to say a few words concerning an experience which Mr. John Gould and myself had, here in Wenham, some 19 years ago.

Mr. Gould, at that time, kept the largest number of colonies for the production of comb honey in Essex county. His success for awhile was rather better than the average bee-keeper in New England. One season he succeeded in getting an extra large crop of comb honey, and increased his apiary to about double what it was in the spring. This was more than his neighbors could stand. They said that as Mr. Gould had but one acre of land, the larger part of his crop of honey was stolen from the flowers grown on other peoples' land, and so they commenced the meanest kind of a warfare upon the bees and their owner. One of Mr. Gould's neighbors, quite early in the spring, opened wide a chamber window and placed some honey in the room, to entice the bees to enter it. As there was no forage in the fields, the bees entered the window for the coveted sweets, and when they were entering the room, by thousands, the window-sash was lowered to within half an inch, thus leaving ample room for the bees to enter, while they could not readily find their way out. As the bees gathered on the window, our "christian" neighbor inside killed them by threshing them with towels. This kind (?) neighbor claimed that he killed the bees by the bushel! Although the bees were being slaughtered before the owner's eyes, Mr. Gould was powerless to prevent it, and not being a "fighting man," had to "grin and bear it." This sort of warfare had not long continued when the idea struck this enemy of the bees, that poison would be a much quicker and more effective method for getting rid of them, so poisoned honey was set in several places; but not understanding how to prepare food for feeding bees, it was not much of a success; still our friends did not give up the idea of poison until I inquired of some of them whether or not the same poison used for destroying the bees would not be equally as effectual in killing dogs, cattle, horses, etc. They soon discovered that the game of "poison" could as well be played by two persons as one.

Then another idea struck him: "Let's call a town meeting, muster our forces, and vote to have the bees removed from the town." This was a partial success. The meeting was called, and a vote was passed to have the bees removed from town. Who was to remove them, where they were to be taken, etc., were questions that caused considerable trouble to the howlers. Finally, nothing was done about it, as each one was afraid to undertake the job to remove the bees, and each one stood back waiting for some one to commence operations. We were hoping some one would have attempted it. Wouldn't there have been "a circus?" I think there would, for I certainly should have offered my services, and I am quite sure that I could have put the bees in proper condition, so that none of the performers would have lacked sufficient energy in any of the antics they would have undertaken to make the thing a complete success.

The argument used by the howlers against the bees, was about as follows: They claimed that the bees were a nuisance anyway; that there was great danger of people and horses being stung while passing Mr. Gould's apiary, though no person or animal had been stung; they also claimed that the bees destroyed the fruit by taking the honey from the blossoms; also that they ruined the ripe fruit. Every thing that could be brought against the bees was hunted up and made the most of, though nothing at all was proven by a particle of evidence.

So far as destroying fruit by taking honey from the flowers, that is nonsense; in proof of which I will invite any one (who entertains the above opinion) into my garden to look at my fruit trees with their heavy loads of fruit. Although the fruit is but about half-grown, the trees are breaking down from the heavy weight upon them.

When I state the fact that I had in my apiary, this year, more than double the number of colonies that Mr. Gould ever had, certainly any one would say (as such is a fact) that the bees are a great benefit to all growers of fruit, in fertilizing the blossoms. One old farmer, who had kept bees for forty years, made the remark in our town meeting, that "he had seen the bees on his barn-yard manure sucking the honey from it, and he did not believe the manure was as good on account of it." Consumers of honey should understand that bees *do not* gather honey from manure. Occasionally, in a very dry time, they may be seen about manure in search of water, but not honey.

Mr. Gould and myself fought out this battle the best we could; we had no one to help us, as a well established bee-paper was not in existence at that time. (The AMERICAN BEE JOURNAL was in its infancy, and struggling to reach its present state of prosperity). Many of its oldest readers will call to mind the articles relating to the Wenham bee-controversy. The "fools" of Wenham were the "laughing-stock" of the whole world, as every paper, far and near, were poking "fun" at the town-meeting, and their attempt to move the bees, and at the idea that bees injured fruit!

The result of this controversy was that Mr. Gould, when he got ready, removed his family and bees to a neighboring town, and has not since been molested by troublesome neighbors; and I have continued to do business here for 28 years. My disposition is such that I cannot be driven from town. I am more of a "fighting man" than my friend Gould, and if a town-meeting were held every day, I could not be driven from my place of business.

Herewith I send my membership fees. I hope that one million dollars may be raised to defend the bee-keepers in their rights.

Wenham,♂ Mass.

For the American Bee Journal.

Bee-Keeping in Virginia, etc.

FRIEDEMANN GREINER.

If I am not mistaken, it is generally accepted as a rule, that bees, when gathering honey and pollen, do not extend their visits over more than one class of plants (at one trip); however, I had occasion to notice, this summer, their changing from blue-thistle (the main honey-plant in this part of Virginia) to the blossom of plantain (*plantago lanceolata*), then back again to blue-thistle, etc., establishing the fact that they will not always strictly adhere to the rule.

About the "Union:" It is really wonderful how few of the fraternity take an interest in this just cause. Arise, fellow-bee-keepers, and take hold of this matter. Do not be as unjust as to be willing to reap where you do not sow. I will not get $50 for my summer's work, but I feel it my duty to stand my share of the defense.

On page 507 is a letter with the heading, "Wonderful Honey-Yield and Increase." I would like to say a few words about this increase. No mistake, it looks big, "wonderful!" this increase of 24 from 2! but if all the particulars were known, perhaps it would appear far less wonderful. I believe that all of the bee-keepers, that have had a few years of experience, could, with the necessary combs and a good honey-flow, or by feeding, accomplish the same feat. Such reports, without specifications, do us no good, save that we are informed of the good honey-flow of a particular locality.

I cannot make as good a report as the one mentioned above, as I have not only not increased, but I had to unite some colonies in order to get forces together so that they might gather enough honey to winter on. I had 128 colonies in one apiary last spring, and now there are only 120; and I took only 200 one-pound sections full of honey.

Another apiary of 28 colonies (2 miles from the other), I managed with better results. The average yield was 21 pounds per colony; and no increase whatever. The bees of this last apiary were in smaller hives, with a capacity of an eight-frame Langstroth hive; the other 128 colones were in ten-frame Langstroth hives. The result proved the superiority of the smaller hive for this location, at least in such a poor season.

White Post,♂ Va., Aug. 19, 1885.

Philadelphia Press.

Bees Working in the Sections.

REV. O. CLUTE.

The one-pound sections for comb honey have become very popular. They are attractive in appearance, and hence sell well. They hold about the quantity an ordinary family desires for one meal. In some quarters the two-pound sections are used extensively, but the tendency is to the smaller section. In buying sections, be sure that they are clean, and that they are accurately made, so as to fit together neatly and firmly. Nearly all the sections are now dovetailed. White poplar is much used in making them, because it is easily worked, and makes a smooth, clean, sweet section.

The hives made in the last few years are mostly intended to take on a section-case for holding these sections. This case fits down close on top of the brood-chamber, and then the top of the hive fits on the case and becomes its top. These cases hold the sections and bring them close down to the tops of the brood-frames, leaving a passage of about three-eighths of an inch between.

Sometimes bees are a little slow about going to work in sections. They will fill the brood-chamber with honey and then swarm, refusing to store in the sections. This can usually be overcome by having one or two of the centre sections already full or partly full of honey. If you saved carefully the partly filled sections last fall, you can now use them very profitably by putting one or two of them in the centre of the sections on each hive. The bees are at once attracted into the sections, and almost always will go to storing in them immediately—provided there is any honey in the fields for them to store.

It is always best to use starters in the sections. A starter is a piece of comb, or of comb foundation, put in the section just where you want the bees to begin work. If you have nice white comb, you can cut this in small pieces and fasten a piece in the centre of the top-bar of each section. To fasten these comb-starters, you can use a cement made of one-fourth resin and three-fourths beeswax. Melt these together, dip the edge of the starter in the cement, and set it quickly where you want it. The cement cools rapidly, and holds the starter firmly.

Of later years nearly all producers of comb honey are using starters of comb foundation in the sections. For this purpose very thin foundation is used. A very small piece of the foundation will do, but if it nearly fills the section, so much the better. This foundation starter can be fastened in the centre of each section by carefully pressing the edge of it down on the centre of the top-piece with a knife. Where many bees are kept, this process is rather slow, and a small foundation fastener is used that does the work quickly and well.

As fast as sections in the centre are filled with honey and sealed, it is a good plan to remove them, moving the partly filled ones to the centre, and putting empty sections with starters, at the outside.

Iowa City,♀ Iowa.

For the American Bee Journal.

Wintering Bees.

MOUCH AMIEL.

The time has arrived, at the North, to begin to prepare for wintering our bees. First, is it certain that all varieties of honey are devoid of poison? If not, why not extract the honey and give the bees food known to have no poison, namely, pure cane-sugar syrup. If it is suspected that pollen is the cause of disease, why not remove the frames that contain it and return them in the spring, as it is known that bees do not need it in the winter; or substitute for it meal in the spring.

If it is cold that causes bee-diarrhea, why not keep the bees warm? If the bees are in a cold cellar or cave, why not warm it with an oil-stove? Do you ask how warm? Well, so warm that a single bee may at any moment traverse any part of the hive. How warm may the room be and the bees not become uneasy? To the point that they begin to fan and hang out. But suppose they do hang out, what of it? If the frames were hung on two sticks in such a room or cellar without a hive, would they not winter well, the feed being healthful?

If the repository is too damp, why not place some unslaked or fresh lime in it, to gather the moisture? What good does the moisture in the cellar do? May it not be injurious? Now, if we have our bees put up for winter, thus conditioned, why will they not survive for 160 or 170 days or more?

To catch a queen, brush her with the finger into a basin of water.

Fargo,♂ Dakota.

Journal of Horticulture.

Syrian Bees Unmanageable.

A LANARKSHIRE BEE-KEEPER.

During the month of September, 1884, I arranged my colonies to stand the winter and spring, marking those hives whose colonies I wished to swarm and those not. Not only have I had my wishes fulfilled, but notwithstanding the very untoward and cold season they have done well—far beyond my expectations. The only honey-storing days the bees have had this year, since April, were the days of the last week of June, and from July 20th to the 29th, with two wet days during that time. At present my colonies have stored about 70 pounds of surplus honey; with a continuance of this fine weather for another week, each should yield 100 pounds.

My little apiary giving so much satisfaction, is not only cheering to me, but will, I hope, be encouraging to others. There are many bees near me, and if the bee-keeping readers reverse the foregoing picture, they will have an idea what they are like. Good management has this year given abundance of honey, but where the management has been different, with the variable season, the result is the same.

The introduction of foregn varieties of bees and their crosses has necessitated changes in their management. Their tempers, too, are greatly changed from the aboriginal black bee, and so much so with some varieties and crosses that bee-keeping to many is an annoyance instead of a pleasure.

In consequence of many imported Ligurian bees showing both temper and markings of the Cyprian bees, together with an impaired constitution consequent on rearing queens from weak colonies, they fail to give the satisfaction which they did when first imported. The Carniolan bees are not only good honey-gatherers and good breeders, but are very mild-tempered and hardy, requiring neither smoke, carbolic acid, nor a bee-veil when manipulating them. Their only fault is the long time they fly when swarming, and their strong inclination to return to the place upon which they alighted if at all roughly handled. Second or after-swarms, by having a great many queens, are troublesome, clustering sometimes in a dozen places, and will send off a swarm from two or three combs with full scope of a colony. The Cyprians and Syrians are liable to do the same, but are no exception to the old race, and but prove that giving room while young queens have been neglected, will not prevent swarming.

Of the Syrians, the only fault noticeable, like the Cyprians, is their tenderness during winter. Their high, bugle-like buzz when on the wing, made them very charming. During the low temperature I had no difficulty with them, but a change of the weather brought a change over them. They swarmed, and while doing so, lost their queen and became vicious, entering other hives. Thinking the queen might still be in the hive, I divided the colony into five, but failed to find her. The ones occupying the old site, and which had the most bees, and the one likely to have the queen, I excised all royal cells, as they were building worker and no drone comb. I expected to find her all right the next day, but judge of my surprise when I found that the newly-made worker-comb contained upwards of a hundred empty queen-cells—a proof that the queen was not there, and a still better proof that bees do not shift eggs from one cell to another; and bees never had a better opportunity than in this case. The other four were examined with the same result—building worker comb—a case without parallel in our native bees.

During these manipulations, which were all performed in a cautious manner, the bees stung my hands dreadfully, entering my pockets and shoes, and stinging my feet through my stockings. They also went over the hedge, and stung one who had been stung well every year for sixty years, thus negativing by ocular demonstration the inoculation theory. Thanks to a bee-veil, my face was not stung, but my hands were, and swelled very much—quite a new thing for me; besides, there was much pain. If the operator could keep perfectly steady and calm, he would escape many stings, but the slightest shake of the hand irritates them to the attack. Had they confined their stinging to those in or about the apiary, I would have been more hopeful and less sorry; but they attacked people on the public road a long way from their hive, and entered dwelling houses and stung people there. Simultaneous with this stinging, and the thermometer standing at from 70° to 84° in the shade, and the height of the honey season, they attacked my strongest Carniolan colony, carrying unmolested its honey away as fast as the latter colony carried it in.

The stinging and robbing had to be stopped, and I acted as judge and jury, sentencing them to be imprisoned without either bread or water for five days. Their incarceration during so high a temperature would have proved fatal, had not excellent ventilation kept them comfortable, but evidently not quiet. Every one of them set to work and proved themselves as good prison-breakers as they were thieves. The whole of them in a very short time had reduced the slide of their doorway an eighth of an inch, while one of them actually pushed aside a board on the top of the frames 18 inches long by 5 broad and ⅜ of an inch thick, and made their escape; while another pushed a half-inch slide mouth-piece aside and commenced their robbing and stinging with renewed vigor. Being sorry to see honest bees robbed by the brigands, I passed a new sentence and carried it into effect, and had them banished several miles from any hives, amidst clover fields, profuse in flower and aroma, and a paradise for both man and bees. On being released from their hive, they attacked me again, for which I would not have cared, but they caused a lot of men in a hay-field to make a hasty retreat, as I did myself, to escape a reprimand and be a witness to seeing the whole of them being toppled into the rivulet from its brink on which they stand. Many of these Syrians were left behind which have entered other hives, and I am sorry to say these refugees are in no way altered, stinging and robbing as they did when in their own hives. The Cyprians I could manage, but the Syrians are unmanageable.

For the American Bee Journal.

The "Contraction Method."

DWIGHT FURNESS.

In an article on page 536, Mr. W. H. Stewart objects to the "contraction method," as described on page 437, and says: "I there find little that I would dare to put into practice." As I have *dared* to use this method with 12 or 15 colonies in 1884, and some 60 colonies the present season, permit me to answer the objections offered by Mr. S., and tell why I intend to continue the practice.

Mr. Stewart seems to forget that this method applies to comb honey production only, and argues from the stand-point of the extracted honey producer. All can readily see that these 5-frame colonies are in the best possible shape for winter and spring; stores are within reach and heat economized. Now, by inserting one empty comb at a time in the centre of the brood-nest, when we want bees reared for the coming honey harvest, and reversing the combs also when necessary, we get the full complement of 8 Langstroth frames solidly filled with brood. This secures the development of 2,000 bees per day, satisfies the needs of the average queen, and gives bees enough for comb honey production. Swarming usually takes place in the month of June. The new swarm is hived on 5 Langstroth frames (sometimes only 4) of foundation, and by the Heddon plan of preventing after-swarms, the entire field-working force of the colony is transferred to the new swarm. The sections are also removed to the new swarm at the time of hiving. In this new colony we have unusually favorable conditions for rapid honey storing—a large force of workers, but little brood to care for for some days, partly finished sections above, and no room for honey below. After seeing colonies so treated, literally piling up the honey, and outstripping all others, does any one wonder that I favor this management?

But says one, "The queen's prolificness will soon be checked for want of room to deposit eggs." Well, that is just what is intended. Of what earthly use are a great lot of bees that hatch after the honey-flow is over? These five reversible frames are first to be filled out, clear to the wood, with brood. We get five full combs of brood instead of three, as Mr. S. seems to expect, because the "dummics," covered on both sides with bees, take the place of the outside pollenized and honey-filled combs of the eight and ten frame hives. Not one-third the usual amount of pollen, or bee-bread, is stored in the combs, for there is no room for it. The honey, for the same reason, is carried into the sections. The field is the best and cheapest store-house for pollen, in this locality, and the bees can get it there as fast as needed.

Remember that it is comb honey that we are after in this article, not bees; and we must not use honey in rearing bees that when hatched will not be more than able to supply their own wants. Our field is supposed to be already fully stocked, and we get all the increase desired by natural swarming. Why then should we burden our surplus-producing colonies by causing them to consume honey in rearing brood for nuclei colonies? I take "solid comfort" in handling these honeyless brood-chambers with no braced, bulging combs or dripping honey, but five perfect reversible sheets of brood.

This system works better with German and hybrid bees, because such bees are less prone to crowd the queen or clog the brood-frames with honey. Large producers of honey now quite generally admit that some black blood is essential to the best results in producing comb honey. Over half of my colonies worked on this plan are pure light Italians, and but little honey is left in the brood-chamber. In the latter part of the season, in this locality, bees usually get enough honey to keep them breeding rapidly; but if they did not, I should leave them a super containing sufficient honey for present wants. Although at present many of my colonies are destitute of honey and dependent upon nature for their supply, yet I have no trouble from robbing or swarming out.

The "wintering problem" has already been so thoroughly elucidated that time is all that is now necessary to set us right on that question.

Furnessville, Ind.

Pacific Rural Press.

Concerted Action Necessary.

WM. MUTH-RASMUSSEN.

The object of the "Bee-Keepers' National Union" is to protect its members from all unlawful and unreasonable interference in their chosen pursuit, and, when necessary, to assist them in defending their interests. For this purpose each member will be charged an annual fee of 25 cents, besides an entrance fee of one dollar, which will be the first assessment, intended to be used for the defense of our brother bee-keeper in Wisconsin. As his will be a test case it is of vital importance to the whole bee-keeping fraternity that he gain this suit. If he loses, there will be no end of trouble to other bee-keepers, for many stand ready to attack us if they can only see the least chance of victory. We cannot afford this.

I shall not here go into a discussion about the benefit of insects, and principally of honey-bees, in fertilizing the flowers, without which fertilization no fruit or seed would be produced, nor of the alleged injury that bees do to ripe fruit; these subjects have been gone over often before, and would require a separate article. The question here is, whether it can be proved or not, that bees, when foraging for their food, molest grazing animals, and whether a bee-keeper can be compelled to discontinue his occupation because a neighbor, from ignorance, envy or malice, chooses to make him trouble through the courts.

The bee-keepers, as a class, are poor, and have not individually the means for expensive litigation; but most of them are intelligent and honest, and have no intention of troubling or interfering with their neighbors, and many of them take extraordinary precautions for this very purpose, which people in other business would never dream about. It is, therefore, only by concerted action that we can hope to defend ourselves. If it is once known that we have a powerful organization, ready and able to defend each of its members against any unjustifiable wrong or annoyance from outsiders, many will be slow to throw down the gauntlet.

Now let every bee-keeper come to the front and join the ranks by sending $1.25 to Thos. G. Newman, 925 West Madison Street, Chicago, Ills. Do not lag behind. It is to your own personal interest, for you do not know when the time will come that you may be placed in the same predicament as our brother in Wisconsin.

Independence, Calif.

For the American Bee Journal.

Making the National Union useful.

ARTHUR TODD.

As a rule, where lawyers are defending a case in court, they cite cases previously decided in favor of their argument or analogous to the same. In my opinion the best hits lawyers make in court are the "points" given them by their clients. Bee-keepers are the clients; can we not strengthen our own cause by giving the lawyers the dates of cases decided on bee-matters? "Custom" makes law. Let us turn to the old countries of Europe, and carefully search out the customs and laws in vogue there; hunt up cases decided in England, France, Germany, Switzerland, Italy, Poland, Spain, Austria, and even little Greece, upon bee-matters. Let the President write (a circular letter in the various languages would answer) to each prominent bee-man in the countries named, for date of trial, point involved, and decision, that came under his notice, and if the report is printed in any bee-periodical, to give the date and the name of the paper. Further, appoint a translator, and let him go through the files of the German, French, and other foreign bee-papers, probably now in Mr. Newman's library. Put the *British Bee Journal* in the hands of the lawyers. Let some such course as this be adopted, and our side will be able to produce case after case decided in favor of the bee-men.

Take the sole point of "identity." Can this owner of the sheep produce any one of the bees trespassing? Suppose he can! Can he swear to identity? Perhaps he will be advised to say that he cannot. The moment he does that, the bee-man's lawyer should demand a non-suit, saying that he can produce *cases* decided in favor of the bee-man on that very point. The bee-lawyer has but to search the pages of *L'Apiculteur* for the case of "Hamet *et al.*," tried in Paris some 15 years ago, and he can address the court thus: "Permit me to read you a report of a case tried in Paris, and the verdict entered for defendant, where the whole case turned on identity." The Judge would listen, and probably be influenced. Similar cases might be found, tried in other countries; let them be hunted up. Mr. Newman can turn to page 360, "*Cours Practique D'Apiculteur*," by H. Hamet, Paris, of which I am sure he has a copy, and therein he will find it stated as follows: "The proprietors of apiaries are responsible by the terms, Article 1385, Code Napoleon, for the injuries done to others by their bees." Under the actual administration of the law, the bee-keeper almost always escapes, for no one can recognize his bees; and alone, out of the hive, a bee has no owner, etc. On that very page are given references to decisions of judges in France on bee-matters. I say, "Hunt them all up;" do it at once; to be forewarned is to be twice armed.

Take the question of killing bees by yeast or other poison,—because ignorant persons think they spoil fruit, etc.—should we stand this? I say, no, sir! most emphatically. Mr. W. A. Pryal, of California, should quietly proceed to get absolute proof that certain parties did on certain days set a poison to kill certain animals or insects, and when the proofs are all ready, then the National Bee-Keepers' Union should "go for" those parties, and force the case into court.

We bee-keepers can prove that civilized nations, such as France, distinctly (See article 454 of the penal code, French) inflicts the penalty of six days to six months imprisonment upon every individual convicted of having killed, without necessity, an animal belonging to another. The Court of Cassation has ruled that "under the general denomination of domestic animals, Article 454 of the penal code, comprises the living beings which live, are raised, are nourished, and which are reproduced under the sheltering protection of man, and by his care." Now, as bees are lodged by man, and receive his care, they must be considered as domestic animals. Case decided March 14, 1861.

I find I have a copy of the French journal *Le Rucher*, for October, 1884, which contains abstracts of French bee-law, and I mail it herewith to

Mr. Newman, as a contribution to the fund of knowledge, which I hold to be "power."* The programme of the National Bee-Keepers' Union, as set forth in the Constitution, is not broad enough for me. It should include the words: "Amend the laws relating to bees," in Article No. 2.

As far as I can learn, bees are outside the law in this country, being classed as *feræ naturae*, which, being translated, I think means, "beings in a state of nature." If this be so, then the United States is behind the times, and should be made to amend the law and take the sensible course French practice has done, viz., when under care of man, then a domestic animal. The duty and object of the National Bee-Keepers' Union will later on be found to be compilation, and passing into recognized law of the United States of America, a bee code, at once simple, sensible, and based upon modern knowledge and modern trade requirements. The suggestions I now have made I deem to be both practical and practicable. If the National Bee-Keepers' Union follow some such plan, my sympathies will be with them, and my subscription, too.

Dropping law, I will now tell you a tale: Some years ago I had occasion to consult the great bee-man of France, Mr. Hamet, and I was in a hurry. He was not at his sanctum, where Mr. Newman and I interviewed him some years ago, but Madame volunteered to send the servant with me to guide me to the "Garden." Three or four blocks away I found Mr. Hamet in a Garden measuring some 40x30 feet, and to my astonishment, into this space was crowded some 50 bee-hives, so close that, as the bees rushed in and out, they pinged most unpleasantly every now and then on nose, eye or cheek. "Why so many hives here? was a natural question. Mr. Hamet replied: "Because of the sugar refineries." More bewildered still, I begged him to explain.

In the spring Mr. Hamet takes his bees to the country; as long as the honey-flow lasts, they stay there. The flow over, supers are taken off (straw-hives, remember), and back they come to this garden. Within a radius of half a mile are the largest sugar refineries in Paris. To these go the bees, and bring in crop No. 2, and not only a store of sugar honey is secured, but a steady, constant breeding is kept up during all July and August, and the hives are full of bees, to take away to the heather to gather crop No. 3.

But do not the bees get killed in the refineries, I asked? "*Mon Dieu, oui*—but what signifies a few bees killed, to the effect on the breeding produced by the inflow from those bees that escape?" was the answer.

Mr. Hamet went on to tell me how the sugar refineries brought suit against him for interrupting them in their business, stealing their sugar, etc., and how the refineries lost the day, not once, but twice, and I think a third time.

On what point did you beat them, I asked? Stooping to the ground, he picked up a dead bee, and said: I filed a demand that they produce in court the bees that did the robbing, etc., and they brought a bushel of dead bees. Picking out one very carefully, I demanded of the plaintiff, will you swear that bee is one of my bees? No answer. I won the case each time, and moreover the Judge admonished the refineries to cover every door and window with wire gauze, and use every reasonable precaution to keep the bees out, or Mr. Hamet might have just cause to go against them for killing his bees without necessity.

To the best of my recollection I have given the facts. I am of the opinion that the full report of the case will be found in *L'Apiculteur.* Suppose that in this country it were once established law, that to kill a bee needlessly, or by carelessness be a party to the same, was a crime, punishable. Cannot my bee-brethren see that the owner of the deadly cider press would quickly have to go behind the screen, or down on him would be the National Bee-Keepers' Union.

Amend, define, and print the laws, and let each bee-keeper have a copy, and in case of need turn to the National Bee-Keepers' Union, but first of all, take the common-sense method to gain the day in the test case.

Philadelphia, Pa.

*[Of the apicultural jurisprudence mentioned by Mr. Todd, we have translated from the French periodical, *Le Rucher*; and even if the items are of no value to Americans, they will be read with interest. Our translation of some of the items is as follows:—ED.]

APICULTURAL JURISPRUDENCE.

The bees which inhabit the woods, living in trees, hedges or thickets in the groves, without having been collected by any one, are numbered among the public things which belong to those who first find them.

The honey and the wax belonging to bees in the wild state, belong solely to those who find them.—*Fournel, Tr. du Voisinage, Abeille.*

When the bees have been captured and placed in the hives, they are the legitimate property of those who hive them, and they ought not to be permitted to suffer by fraud or neglect.—*Vaudore, Droit Rural No.* 205.

In order for the swarm to belong to the owner of the land on which it is placed, the bees must not be enticed by fraud or trickery.—*C. civil, art.* 564.

According to the Rural Code, the owner of the fugitive swarm may demand and recover it; and the one who has seized it must give it up to him, (*Toullier, tome* 4, *No* 50), according to the condition expressed, that the said owner has not ceased to follow his swarm (*Loi du Sept.* 28 *to Oct.* 6, 1791, *T. I, Sec.* 3, *art.* 5); otherwise according to the Roman law, the swarm should be the property of the owner of the land whereon it settles.—(*Dig., Lib.* 41, *Tit. I, de acq. rer dom., page* 5, *Sec.* 4.)

As the result of this custom, in certain counties they follow up the swarms with a great noise to prove that they have not ceased to pursue them. It is desired that the law should be modified, and that there should be a return to the customs of St. Louis, which maintain the rights of the owner even after the bees had disappeared from his view, provided always that he can prove their identity; inasmuch as there exists a sure way to recognize them, at least during the first 36 hours after the issuing of a swarm.—(*Voir le Cours d'Apiculture de Hamet, 4th Ed.*, 1874, *page* 95.

The usufructuary, the farmer, the tenant and all other possessors of an uncertain title, have the right to claim the swarms which settle upon their lands; (*Fournel, du Voisinage*); but the said swarms belong to the land, and the tenant can only use their products.—(*Vaudore, tome II, No.* 210.)

The bees are naturally personal property, but they revert to the estate by intent, when the hives have been placed there by the proprietor for the cultivation of the land.—(*C. civ., art.* 524.)

According to the Rural Code, bees cannot be seized, nor sold for taxes or debts; except by the person from whom they were bought, or the one granting a title by lease or otherwise.—(*Titre I, Sec.* 3, *art.* 2.)

It must not be permitted, for any cause, to disturb the bees in their flight, (*Code penal, art.* 479), and even in case of lawful seizure they must not be moved during the months of December, January or February. (*Ib., art.* 3.) These prohibitions (VIII and IX) are not always enumerated by the Civil Code. Among the many unseizable articles, bees are not there mentioned.—(*Art.* 592 *et suiv. et* 1041.)

Article 454 of the Penal Code inflicts a punishment by imprisonment of from 6 days to 6 months, upon any one convicted of having unnecessarily killed any domestic animal belonging to another. The *Cour de Cassation* states it as a principle that "under the general name of domestic animals, *art.* 454 *of the Penal Code* is included the other higher animals which live, are fed, or reproduce themselves, under the protection of man." As the bees are housed by man, and receive his attention, they are considered domestic animals.—(*Arret de Cassation du* 14 *mars* 1861.)

According to *Vaudore*, the part-owner of a colony of bees cannot compel his co-partner to divide it; they must litigate their rights. (No. 211.) This opinion cannot but appear to be reasonable, inasmuch as the division would be impossible, without damage to both parties.

In certain countries they have established a sort of lease for bees; the proprietor yields his hive to a person to take of it; after the time fixed upon, they divide the proceeds.—(*Diction de Prost de Royer, Abeilles.*)

The owners of the hives of bees are responsible, according to article 1385 of the Civil Code, for injury which the bees have done to others. Under the actual legislation of the Empire (*V. ci-dessus*), the apiarist frequently escapes the penalty of this article, because no one knows who owns the bees when they are away from their hives. He is not responsible for his swarms when they abscond, for then they are only his property by law.

In principle (after the law of 1791), the culture of bees, like all other animals, is not under any restriction; any one has the right to keep as many colonies of bees as he wishes on his own lands, or to transport them from one place to another.—(*Vaudore*, 203.)

For the American Bee Journal.

Preparing Bees for Winter, etc.

JAMES HEDDON.

In response to many solicitations, I will give the following advice, based upon my experience in feeding bees for winter.

We need not fear winter losses from any cause except bee-diarrhea. I do not know positively, but I am of the opinion that the consumption of pollen in confinement is the prime cause of bee-diarrhea. I am also further quite positive that bees never partake of bee-bread in confinement, if the temperature surrounding them does not sink below a certain point. I am fearful that honey often contains enough floating pollen to cause fecal accumulations during confinement, because pollen in this form cannot be rejected by the bees under any circumstances in which the consumption of such honey is going on. I do not believe that bees can void fecal accumulations in a dry state, and thus avoid diarrhea. Many years' experience by many bee-keepers with sugar syrup, has demonstrated that it is better as a winter food than honey.

HOW TO PREPARE THE SYRUP.

Enquirers ask for the results of my experience in preparing and feeding sugar syrup for bees in winter, which is as follows:

Into a boiling-pan put three pounds of water, heat it until it boils, and with a wooden-paddle stir this boiling water as you sift into it ten pounds of granulated sugar. When it is all dissolved, and the syrup is boiling, pour into it one-half of a tea-cupfull of water, in which has previously been dissolved a large tea-spoon level full of tartaric acid. Stir it a moment longer, and then remove it from the fire. Feed the syrup while warm (not hot), if convenient. I use and prefer a large feeder covering the entire top of the hive, which holds 18 pounds at one filling.

This syrup will not crystallize if the acid is used in the proportion mentioned, and is of full strength, and the syrup boiled as directed. Such syrup is at once, when cool, of the consistency of well-ripened honey, and as the bees receive, store and seal it readily, I know of no reason why it is best to feed it to them thinner, and depend upon them to evaporate a portion of the water in it.

WHEN TO FEED THE SYRUP.

The best time to feed the syrup is at once—as soon as you are satisfied that all gathering of natural stores is past.

PREPARING THE HIVES.

There are two ways of preparing the hives to receive this food. No notice need be taken of the bee-bread which the combs may contain, providing a low temperature is properly guarded against. One way is to wait till the brood is all hatched out in the hive, then exchange with them honeyless combs for theirs containing their honey. I should prefer to feed into only five Langstroth combs, and in some way fill up the rest of the space contained in the hive made for eight or ten frames.

The hive is now ready to put on the feeder, and it is perhaps better to feed them about 25 pounds of this syrup. It is true that large colonies often consume not more than 2, 3, or 5 pounds when wintering well, from the time they cease to fly until they again fly in the spring; yet all must need several times more than this to carry them from the time of feeding until the time of gathering new honey the following year, and I see no reason for giving them only sufficient stores to sustain life during the period of confinement, unless one has some old honey or other inferior feed that he may wish to convert into brood and bees in the spring, before the bees will gather new honey. I am speaking for latitudes similar to my own.

For brood-rearing, when bees can fly almost daily, I would rather feed honey than sugar syrup, especially if bee-bread was not plentiful in the hives, or pollen in the field, owing to the fact of its containing nitrogen—the great tissue-making element.

Another and more simple way of preparing the hives, and one which I believe to be practically safe, is to work them through the summer in such a manner as to bring them out at the end of the honey-flow partially or almost entirely destitute of honey, (see my article on page 437), and feed the syrup on top of the stores which the hive contains, without moving a single comb.

I shall try both of the above plans the present season. The latter plan embraces the advantages that, first, no preparatory manipulation is required, and second, the bee-keeper does not have to wait for the last of the brood to hatch from the hive. I believe it to be almost certain of success. The sugar-syrup stores will be placed where its consumption will take place mainly during the period of confinement.

THE PROPER TEMPERATURE.

I am persuaded that 45° Fahr. (ranging above that point rather than below) is the proper degree for the repository. Of course this would be a deadly temperature for the interior of the hive, and I should prepare the hives with only lower ventilation. If a cellar is very damp, such dampness will not tend to produce bee-diarrhea, but it will injure the hive, and may be avoided by placing on its top a case or super filled with chaff, shavings or other absorbent.

Now, I fancy I hear Messrs. Boomhower, H. V. Train and others say, "Why, bees will always winter well in that way upon their natural stores!" The reports from these gentlemen have given us evidence that such is true of their locations, but I fear it is not true in my own, as well as in many others. I wish it was, for I do not like to run in debt for sugar while I have on hand tons of the choicest white extracted honey, for which, in bulk, I can find no purchaser.

After the temperature is properly cared for, how much then depends upon the quality of the food, remains for experiment, and I shall be one to try to solve the problem.

The amount of water, acid and sugar mentioned in the above way of preparing the syrup, is given merely as a proportion. I boil half a barrel of sugar at one time, on a common cook-stove, in a flat copper-boiler made for the purpose, and which covers the entire top of the stove. It would be better to have the large tea-spoon a little rounding with the tartaric acid than any scant of level full; and one had better feed his bees twice what they need than any scant of their necessities. They will not waste any.

REPLIES TO VARIOUS CRITICISMS.

I wish to say to Mr. Gresh (page 551) and others, that I have used the word "prime" correctly. It has many definitions, in which case I, of course, have a choice. It is defined by Webster, and used in common conversation, as "first in rank, degree, dignity or importance, first in excellence; of the highest quality."

I also wish to say that I know Mr. Gresh is mistaken in supposing that deep frames may have any advantages over shallow ones for wintering. True theory and practical experience, both, deny it.

Prof. Cook only said that Mr. Doolittle's bees had the odor of diarrhea, and seemed to be without pollen, as Mr. Gresh *now* states it, which is quite different from his former statement.

I did not read Mr. Doolittle's article on page 69 (1884), until my attention was called to it by a friend two weeks ago. That article is prior to my article, but not to my work which is three years old, so I cannot "give him priority in using the system." Besides, I find that it is not a systematized summer and winter management, as meant by me in my former article. According to Mr. Doolittle's statement, he has in September "from 18 to 22 pounds of honey in the frames, with a very small colony of bees for wintering." Now, this is not systematized as a necessary summer and winter management, for it leaves the hives much in the same condition as when managed without contraction, while my own method brings them out quite short of stores, and in a good condition for the introduction of sugar syrup. This is the way it looks to me, yet it is of no importance, for I only stated what I believed and in keeping with the facts, and I am pleased to have Mr. Doolittle's testimony (whether prior or not) in favor of so valuable a method.

I deem it unnecessary to occupy any more space in replying to criticisms on my hive-contraction method, as I think that all will fully and clearly understand it as given in my article on that subject, on page 437.

Dowagiac, ♀ Mich.

SELECTIONS FROM OUR LETTER BOX

Frosty Nights.—Prof. A. J. Cook, Agricultural College, ♀ Mich., on Sept. 2, 1885, says :

We had a frost last night. I fear that it has killed the corn. It will be very hard on the farmers.

Introducing Virgin Queens. — W. Harmer, Manistee, ⊸ Mich., says :

I would like to say in answer to a question on page 534, by Mr. Hicks, (that is, if he means direct introduction), that his queens may have been too old. Has he ever tried letting them run in at the entrance when they are only a minute old? If he will try that, I think he will report 85 per cent. success instead of that amount loss. I think that as soon as the bees miss their queen, is a good time to introduce another.

Preparing and Feeding Sugar Syrup.—H. H. Stratton, Grassy Cove, ⊶ Tenn., asks the following :

Will Mr. Heddon give, through the BEE JOURNAL, his method of preparing and feeding sugar syrup to bees for winter stores? Also, the best kind of sugar, cost, etc., considered ?

[Use the purest granulated sugar. Answers to the other queries may be found on page 571.—ED.]

Do Bees Steal Eggs ?—Mrs. W. H. Smith, Mount Salem, Ont., on Aug. 31, 1885, says :

On page 537, Mr. C. G. Beitel writes under the heading, "Do Bees Steal Eggs ?" and closes by saying that he would like to hear the experience of others on this subject. Here is mine: On May 15, I removed an Italian-hybrid queen from a strong colony, and on May 29 I gave them an Italian queen. She proved to be a good layer, and in a short time every frame was nearly filled with brood, and she continued to keep them full for some time, when suddenly she ceased to lay, and for several weeks she remained idle. On one occasion I made a search for her, fearing that she had been lost or destroyed, but I found her there apparently all right. I closed the hive, feeling satisfied that she would soon commence laying again. In the course of a few weeks I discovered young larvæ, and all went on nicely—the empty combs were soon filled with brood in all stages, but alas, all the young brood proved to be black bees. The matter had been a problem to me until I read Mr. Beitel's article which, to me, looks quite feasible. In my case my theory is, that as the queen remained inactive so long, the workers determined to supersede her, and having no eggs nor larvæ they stole them from a black colony. This I do know, that once they were an Italian colony, and now they are black, and the change took place without the aid of hands.

Finishing Partly-Filled Sections.—S. C. asks the following questions :

1. Will unsealed honey in sections crystallize or candy during winter ?

2. If it does, when put back on the hives the following season will the granulated honey be carried out by the bees, or will the heat from them return the honey to its liquid state, and the sections be completed in good shape ?

[1. Yes ; so will sealed honey in many cases. The sealing tends to prevent graining, but there is such a difference in the nature and amount of acid of different kinds of honey, that while some will go all through a cold winter unsealed without graining, other samples will grain sealed over in the comb, within a few weeks after being removed from the hives.

2. Sometimes the granulated honey will be carried out by the bees, but I have known a case where new honey was placed on top of it, and all was then sealed over. The heat of the hive is not sufficient to liquify grained honey ; a degree of heat is required that the comb could not bear.—JAMES HEDDON.]

Cool Nights, but no Frost.—H. R. Dorr, Worden, ♀ Ills., on Sept. 2, 1885, says :

Bees have done well for the past three or four days working on heart's-ease. They came nearly starving during July and August and the latter part of June. We are having very cool nights in this part of the State. This morning, at sunrise, the mercury was down to 45°, but there has been no frost yet.

Feeding Bees for Winter.—Thos. J. Corcoran, Cincinnati, ♀ O., asks the following questions :

1. How many pounds of sugar does it require to winter a colony of bees where it takes 25 pounds of honey ?

2. Can a colony be wintered on 7 Langstroth frames ? How are they prepared ?

3. What month is the best time to feed them their winter stores ?

[Mr. Corcoran will probably find the answers to these questions in Mr. Heddon's article on page 571.—ED.]

Varieties of Bees.—W. H. Smith, Mount Salem, Ont., on Sept. 1, 1885, says :

I have sent you a sample of some bees. Please tell, through the BEE JOURNAL, why it is that such a variety of bees can be produced from one mother, viz., black and one-and-two band workers. The mother has the appearance of being a good Italian queen.

[Simply this—the mother mated with an impure drone.—ED.]

Canadian Members.—W. F. Smith, Walsingham, Ont., on Aug. 29, 1885, writes as follows :

Can Canadian bee-keepers become members of the Bee-Keepers' Union ? Please answer in the BEE JOURNAL.

[Certainly they can ; an adverse decision in regard to bee-keeping in any of the States would be detrimental to Canadian apiarists, and hence they should take a lively interest in the work of the Union.—ED.]

Convention Notices.

☞ The Kentucky State Bee-Keepers' Society will meet in Walker Hall, at Covington, Ky., on Sept. 23 and 24, 1885. The Reverend L. L. Langstroth is expected to be present, and all bee-keepers are invited to attend.

J. T. CONNLEY, *Sec.*

☞ The Progressive Bee-Keepers' Association, of Western Illinois, will meet at Macomb, Ills., on Thursday, Oct. 15, 1885. Let everybody come and have an enjoyable time. Good speakers are expected.

J. G. NORTON, *Sec.*

☞ The 4th semi-annual meeting of the Wabash County Bee-Keepers' Association will be held at North Manchester, Ind., on Oct. 10, 1885, in the G. A. R. Hall, Union Block. First session at 10 a. m. All bee-keepers are cordially invited to be present.

J. J. MARTIN, *Sec.*

☞ The Western Bee-Keepers' Association will hold its fourth annual meeting in Independence, Mo., on Thursday and Friday, Oct. 10 and 11, 1885. The Association will endeavor to make this the most interesting meeting yet held, and will spare no pains within its means to make it valuable to all. Several of our most prominent bee-keepers have signified their intention to be present.

C. M. CRANDALL, *Sec.*

☞ The New Jersey and Eastern Bee-Keepers' Association having accepted an invitation to meet with the Mercer County Board of Agriculture, of Trenton, N. J., will hold their semi-annual convention in the Grand Jury Room of the Court House at Trenton, N. J., on Thursday and Friday, Nov. 5 and 6, 1885, at 10 a. m. A full attendance of the members is requested. To all persons interested in our vocation, we extend a cordial welcome. The committee of arrangements have secured hotel accommodations at reduced rates.

WM. B. TREADWELL, *Sec.*

The National Bee-Keepers' Union.

MEMBERS RECEIVED SINCE LAST ISSUE.

Babb, Enoch,
Billings, L. P.
Dorr, Dr. H R..
Edson, A. S.
Taylor, R. L.

WEEKLY EDITION
OF THE
AMERICAN
ESTABLISHED IN 1861
OLDEST BEE PAPER IN AMERICA
BEE JOURNAL
PUBLISHED BY
THOMAS G. NEWMAN & SON,
PROPRIETORS,
923 & 925 WEST MADISON ST., CHICAGO, ILL.
Weekly, $2 a year; Monthly, 50 cents.

ALFRED H. NEWMAN,
BUSINESS MANAGER.

Special Notices.

The Baking and Roasting Pans, for baking bread, cake, puddings, pot-pie, fish, etc., and for roasting meats, poultry, game, oysters, etc., are excellent. We have two in use, and like them very much. They are made by the patentees, Richey & Williams, Sing Sing, N. Y.

◆

To Correspondents.—It would save us much trouble, if all would be particular to give their P. O. address and name, when writing to this office. We have several letters (some inclosing money) that have no name; many others having no Post-Office, County or State. Also, if you live near one post-office and get your mail at another, be sure to give the address we have on our list.

◆

☞ If your wrapper-label reads Sept. 85, please remember that your subscription runs out with this month. Renew at once, so as not to lose any numbers.

◆

☞ Our rates for two or more copies of the book, "Bees and Honey," may be found on the Book List on the second page of this paper. Also wholesale rates on all books where they are purchased "to sell again."

◆

Bees and Poultry.—But few out-door pursuits go so well together as bees and poultry. Give the poultry the necessary attention in the morning and evening, and give the bees such of the time between as becomes necessary. We have made arrangements by which we can supply the American Poultry Journal (price $1.25) and the Weekly BEE JOURNAL both for $1,75 a year. This is a rare opportunity to get two standard papers for about the price of one.

◆

Preserve your papers for reference. If you have not got a Binder we will mail you one for 75 cents, or you can have one FREE if you will send us 3 new yearly subscriptions for the BEE JOURNAL.

◆

To give away a copy of "Honey as Food and Medicine" to every one who buys a package of honey, will sell almost any quantity of it.

Honey and Beeswax Market.

Office of the AMERICAN BEE JOURNAL,
Monday, 10 a. m., Sept. 7, 1885.

The following are the latest quotations for honey and beeswax received up to this hour:

CHICAGO.

HONEY—Receipts of comb honey are coming more freely, and the demand is about equal to it. Yet 15c per pound is all that can be obtained. Extracted honey ranges from 5@8c for the different grades and styles of packages.

BEESWAX—22@23c.

R. A. BURNETT, 161 South Water St.

BOSTON.

HONEY.—There is no change in the market, to speak of. We have had some new Vermont white clover honey in 1-lb. sections, which is very fine. There is a large crop in that State. Prices remain as follows: For 1-lb. sections, 16@18c.; for 2-lbs., 14@16c. There is little or no sale for extracted.

BEESWAX.—30 cts. per lb.

BLAKE & RIPLEY, 57 Chatham Street.

NEW YORK.

HONEY—The honey market is very quiet, and will continue so until fall trade opens up. Some old stock is on the market yet, with small shipments of new comb honey arriving. Southern extracted honey is coming in very freely. Quotations are as follows for comb honey: Fancy white in 1-lb. sections, 14@15c; fair to good in 1-lb. sections, 12@13c; fancy white in 2-lb. sections, 13@14; fair to good in 2-lb. sections, 11@12c; fancy buckwheat in 1-lb. sections, 9@10c; fancy buckwheat in 2-lb. sections, 7@8c. Extracted white clover, 6@7; buckwheat, 5@6c; Southern, per gallon, 55@65c.

BEESWAX—Prime yellow, 25@28c.

MCCAUL & HILDRETH BROS., 34 Hudson St.

CINCINNATI.

HONEY—The market is quiet with fair demand for extracted, and an abundance of offerings from commission houses and producers. Prices range between 4@8c on arrival. There is but little new comb honey in the market, with an occasional demand. Prices nominal.

BEESWAX—Is in fair demand with liberal offerings, and brings 20@24c on arrival.

C. F. MUTH, Freeman & Central Ave.

SAN FRANCISCO.

HONEY.—New comb honey sells slowly because of last year's crop now on hand. We now quote—Extracted, old dark 4½c.; new white, 5½@6 c.; dark, 4¾@5c. No extra white coming forward.

BEESWAX—Quotable at 23c.—wholesale.

O. B. SMITH & CO., 423 Front Street.

CLEVELAND.

HONEY.—The new crop is beginning to arrive and is selling at 14@15 cts. per lb. for choice 1-lb. sections. Old honey is very dull—none selling although freely offered at 10@12 cts. Extracted, as usual is not in demand in our market.

BEESWAX.—20@22 cts. per lb.

A. C. KENDEL, 115 Ontario Street.

KANSAS CITY.

HONEY.—Considerable new honey is coming in and is readily taken at the following prices: 14@15 cents for choice 1-lb. sections; 12@13c. for choice 2-lbs.; 10½@11c. for choice California 2-lbs.; and 8@9c. for off lots. Extracted is moving freely at 4@6c. for Miss., La., and Tex. honey; 5@6c. for good buckwheat and other similar kinds; 6@7c. for choice white clover and basswood, and for choice California white sage.

BEESWAX.—Slow at 20@25.

CLEMONS, CLOON & CO., cor. 4th & Walnut.

◆

☞ **Sample Copies** of the BEE JOURNAL will be sent FREE upon application. Any one intending to get up a club can have sample copies sent to the persons they desire to interview by sending the names to this office, or we will send them all to the agent.

◆

☞ All who intend to be systematic in their work in the apiary, should get a copy of the Apiary Register and commence to use it. The prices are as follows:

For 50 colonies (120 pages)............	$1 00
" 100 colonies (220 pages)......	1 25
" 200 colonies (420 pages)............	1 50

The larger ones can be used for a few colonies, give room for an increase of numbers, and still keep the record all together in one book, and are therefore the most desirable

The largest cabbage growers in the world (W. M. Johnson & Co., of Chicago), use upwards of 5,000 acres of land for growing cabbages. Last season they manufactured 19,600 barrels of sourkrout, besides shipping 467 carloads of cabbages to Eastern cities. They use and recommend Tillinghast's Puget Sound Cabbage Seeds. The disseminator of this renowned brand of seeds, Isaac F. Tillinghast, of La Plume, Pa., in order to introduce them into every county in the Union, has organized a Seed and Plant Growers' Association. One reliable party in each town in the Union is being enrolled as special agent, and is supplied with seeds in trade-marked packages, and also instruction books which will enable any one to grow cabbage plants successfully anywhere. Parties desiring seeds of plants, will, upon application to Mr. Tillinghast, be furnished with the addresses of agents nearest them, from whom they may be obtained. Purchasers are thus saved unnecessary express charges, and assured of obtaining the best strain of cabbage seeds or plants which can be procured.

This association thus furnishes one man in each town—the appointed agent—a good cash-paying business in selling seeds and growing and supplying plants. There are still many excellent localities unoccupied, and any one so situated as to act as agent for this association should address Mr. Tillinghast as above, for particulars in regard to it.

Mr. Tillinghast has also just put upon the market a "Cabbage Pest Powder," which is entirely harmless to the plant at any stage of its growth, and also harmless to persons eating them, yet the most effective destroyer of lice, fleas and worms which has ever been compounded. It retails at 24 cents per pound.

Advertisements.

HONEY

WE are now in the market, and will be during the entire season, for all honey offered us, in any quantity, shape, or condition—just so it is pure. We will sell on commission, charging 5 per cent.; or, if a sample is sent us, we will make the best cash offer the general market will afford. We will handle beeswax the same way, and can furnish bee-men in quantities, crude or refined, at lowest market prices Mr. Jerome Twichell, our junior member in this department, has full charge, which insuers prompt and careful attention in all its details.

Sample of comb honey must be a full case, representing a fair average of the lot. On such sample we will make prompt returns, whether we buy or not.

CLEMONS, CLOON & CO.,
36A17t KANSAS CITY, MO.

Dadant's Foundation Factory, wholesale and retail. See Advertisement in another column

1885. GET THE BEST. 1885.
THE LATEST EDITION OF
THE BEE-KEEPERS' HANDY-BOOK

Contains 300 pages and 100 illustrations. One hundred pages are devoted to queen-rearing, and as the Handy-Book is copy-righted our methods for rearing first-class queens cannot be found in any other publication. The Handy-Book also contains fine likenesses of Rev. L. L. Langstroth and the late Mr. Moses Quinby—the two most noted apiarists of the age. The book and tested Italian or Syrian queen, by mail, $2 00.

36Atf HENRY ALLEY, Wenham, Mass.

LOS ANGELES.

HOMES IN SOUTHERN CALIFORNIA.

> "Stern winter smiles on that auspicious clime,
> The fields are florid with unfading prime;
> From the bleak pole no winds inclement blow,
> Mould the round hail or flake the fleecy snow;
> But from the breezy deep the bless'd inhale,
> The fragrant murmurs of the western gale."
> —Homer.

FULL information concerning the garden spot of the world, beautiful LOS ANGELES, THE LIVELIEST AND MOST PROSPEROUS SECTION OF THE PACIFIC COAST, furnished by the Los Angeles **Weekly Mirror** a mammoth 72 column PAPER, the best weekly in Californa SEND FOR IT. Single copy, three two-cent stamps; six months, **$1**; one year, **$2**.

Address THE TIMES-MIRROR CO.,
25A13t Los Angeles, Calif.

RED CLOVER QUEENS

by return mail.—I am now up with my orders, and can send Queens by **return mail.** My Queens are almost without an exception purely mated. My bees have worked just thick on red clover, from the time it bloomed until the present time.

30ABtf **J. T. WILSON,** Nicholasville, Ky.

$200,000

in presents given away. Send us 5 cents postage, and by mail you will get *free* a package of goods of large value, that will start you in work that will at once bring you in money faster than anything else in America. All about the $200,000 in presents with each box. Agents wanted everywhere, of either sex, of all ages, for all the time, or spare time only, to work for us at their own homes. Fortunes for all workers absolutely assured. Don't delay. H. HALLETT & Co.
51A1y Portland, Maine.

Muth's Honey Extractor,

Square Glass Honey Jars, Tin Buckets,
Langstroth Bee-Hives, Honey-Sections, etc.

Apply to **CHAS. F. MUTH,**
Freeman & Central Ave., - CINCINNATI, O.

☞Send 10c. for Practical Hints to Bee-Keepers.

FOR SALE

OR EXCHANGE. Improved Stock Farm 90 miles from Chicago. Will sell cheap for cash or exchange for stock of goods—or western land. Address,
30A6t **T. J. CAIRNS & CO.,** Janesville, Wis.

60 New Style, Embossed Hidden Name and Chromo Visiting Cards, no 2 alike, name on, 10c., 13 packs $1; warranted best sold. Sample book, **4c.** L. JONES & CO., Nassau, N. Y.
11A1y

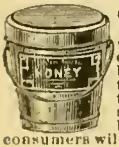
Fruit-Farm & Apiary

FOR SALE CHEAP!

96 ACRES, hill-land, ⅓ well-stocked with apples, peaches, pears, plums, quinces, grapes, and small fruit, in fine bearing condition. The remainder in pasture, grass, grain, etc. Apiary contains **140 ITALIAN COLONIES** in Langstroth hives. Bee-house and all modern appliances for apiculture, in as good location for bees and honey as can be found. Good 10-room house, beautifully located, commanding a view of the city, river and surrounding country. New barn and out-buildings, cistern, never-failing springs, etc. Reason for selling—age and ill-health.

33A6t **S. A. STILLMAN, LOUISIANA, MO.**

NEW ONE-POUND HONEY PAIL.



THIS **new size** of our Tapering Honey Pails is of uniform design with the other sizes, having the top edge turned over, and has a bail or handle,—making it very convenient to carry. It is well-made and, when filled with honey, makes a novel and attractive small package, that can be sold for 20 cents or less. Many consumers will buy it in order to give the children a handsome toy pail. **PRICE, 75 cents per dozen, or $5.00 per 100.**

THOS. G. NEWMAN & SON,
923 & 925 West Madison St., CHICAGO, ILL.

HUTCHINSON'S ADVERTISEMENT

WE ARE now making a specialty of rearing fine **ITALIAN QUEENS.** All Queens are bred from the purest and best of mothers, and the cells built in full colonies. We have one of A. I. Root's very best, selected, tested, imported Queens; also quite a number of very superior home-bred Queens from the apiary of "Cyula Linswik;" besides this, we have our own original stock, which was built up from Dadant imported stock, and from Queens obtained from several of our best breeders. We are not trying to see how cheaply we can rear Queens, but what **GOOD** ones we can furnish. No Queens will be sent out that would not be used in the home apiary. Single Queen, $1.00; six for $5.00; twelve or more, 75c. each. Tested Queens, $2.00 each. Full colonies, $5.00 each. Make money orders payable at Flint. Address

W. Z. HUTCHINSON,
30Atf Rogersville, Genesee Co., Mich.

THE INVERTIBLE HIVE!

INVERTIBLE FRAMES,

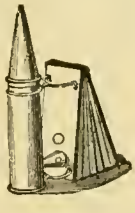
Invertible Surplus Honey Cases,
Entrance Feeders, Top and Bottom Feeders,
Hive-Lifting Device, Honey Extractors,
Wax Extractors, Comb Foundation, etc.

☞ My new Illustrated Catalogue is now ready, and will be mailed to all who may apply for it. Address,

J. M. SHUCK,
DES MOINES, IOWA.
10A1y

WIN

more money than at anything else by taking an agency for the best selling book out. Beginners succeed grandly. None fail. Terms free. HALLETT BOOK Co.
51A1y Portland, Maine.



Bee-keepers' Supplies,

Standard Langstroth,

Quinby Standing-Frame,

And all other kinds of **Hives,**

MADE TO ORDER,

Quinby Smoker a specialty.

I shall supply anything you need in the Apiary. Send for Illustrated Price List.

W. E. CLARK, successor to L. C. Root,
7A1y ORISKANY, Oneida County, N. Y.

Dadant's Foundation Factory, wholesale and retail. See Advertisement in another column.

QUEENS by Return Mail!

AT THE FOLLOWING LOW RATES:

Bred from my **Best Strains** of **Italians** and **Albinos!**

Untested Queens	each	$	1 00
" "	½ doz.		5 50
" "	1 "		10 00
Warranted "	each		1 10
" "	½ doz.		6 00
" "	1 "		11 00
Tested "	each		2 00
Selected Tested Queens	"		2 50

Descriptive Price-List free. Address all orders to

WM. W. CARY, - Coleraine, Mass.,
(Successors to Wm. W. Cary & Son.)

N. B.—On a single order for 50 Queens, we will give **10 per cent. discount** from the above list. 29Atf

Bee-Hives, Sections & Honey-Boxes

GREAT REDUCTION.

DEALERS and large consumers will find it to their interest to write us for special stocking-up prices—either for present or future delivery.

G. B. LEWIS & CO.,
34ABtf WATERTOWN, WIS.

A PRIZE.

Send six cents for postage, and receive free, a costly box of goods which will help you to more money right away than anything else in this world. All, of either sex, succeed from first hour. The broad road to fortune opens before the workers, absolutely sure. At once address TRUE & CO., Augusta, Maine.
51A1y

SYRIO-ALBINO QUEENS.

APIS AMERICANA.—Orders for Queens of the beautiful **SYRIO-ALBINOS.** will now be received. Reared by my **new method,** all are large and fine and perfect. We have made a great discovery in Queen-Rearing, and hereby challenge the production (by natural swarming or otherwise) of Queens that will excel ours in any valuable quality. Isolated 3 miles from other bees. First come, first served. Send for circulars.

DR. G. L. TINKER,
1Atf New Philadelphia, Ohio.

Bees and Queens

HAVING purchased all the black bees within a radius of 6 miles, I now claim the LARGEST ITALIAN APIARY and best location for rearing **FINE QUEENS** in the State. I will continue to sell warranted Queens at the low price of **75** cents each. Extra selected tested (1885 rearing) **$1.50** each. Three L-frame Nuclei, every frame filled with brood, with selected tested Queen, **$3** each.

Address JAS. WOOD, North Prescott, Mass.
29A9t

BEES for SALE

MRS. J. N. HEATER,
35A3t **COLUMBUS, NEBR.**

FOLDING PAPER-BOXES.

Bee-keepers who desire to put their honey on the market in the most attractive manner, should use the **Folding Paper Box.** Read what the Editor of this paper says concerning this box, on page 531. Sample box, by mail, 5 cts. Send for circular and prices.

GEO. T. HAMMOND,
35Atf BROCKPORT, Monroe Co., N. Y.

HELP

for working people. Send 10 cents postage, and we will mail you *free*, a royal, valuable sample box of goods that will put you in the way of making more money in a few days than you ever thought possible at any business. Capital not required. You can live at home and work in spare time only, or all the time. All of both sexes, of all ages, grandly successful. 50 cents to $5 easily earned every evening. That all who want work may test the business, we make this unparalleled offer: To all who are not well satisfied we will send $1 to pay for the trouble of writing us. Full particulars, directions, etc., sent free. Immense pay absolutely sure for all who start at once Don't delay. Address STINSON & CO.
51A1y Portland, Maine.

WEEKLY EDITION
OF THE
AMERICAN
ESTABLISHED IN 1861
OLDEST BEE PAPER IN AMERICA
BEE JOURNAL

THOMAS G. NEWMAN,
EDITOR.

Vol. XXI. Sept. 16, 1885. No. 37.

APICULTURAL NEWS ITEMS.

EDITORIAL AND SELECTED.

"**Keep pushing**—'tis wiser
Than sitting aside,
And dreaming and sighing
And waiting the tide.
In life's earnest battle
They only prevail,
Who daily march onward,
And never say fail !"

Instead of fighting misfortune, we too often make it a prisoner.

Mr. Langstroth has written another good article, and we shall present it to our readers shortly.

Any person not a subscriber, receiving a copy of this paper, will please consider it an invitation to become a subscriber to it.

The world is a looking-glass: frown at it, and it will frown back at you ; smile at it, and it will give you smiles in return.

The time to buy is when everybody is anxious to sell, and the time to stick to bee-keeping is when the A B C class is trying to get out of it.

The Ontario Bee-Convention at Toronto, on Sept. 10 and 11, 1885, will be reported by our special correspondent ; and a full report may be expected next week.

The masses deal with the effect, but the sages deal with the cause. Bad causes will always produce bad effects. Remove the cause, and the effect will cease.

Bees wintering in cellars should be kept quiet. When disturbed, they begin to consume their stores. A sudden jar or knock drives the bees to their honey and keeps them in confusion for some time.

Any one who begins bee-keeping with the idea that he has a good, lazy job of it, and that bees "work for nothing and board themselves," will "get left," and will blame somebody for misrepresenting the business.

"**There is a world** of information," says the *Planter's Journal*, "in that complete book, *Bees and Honey*, by Thos. G. Newman, which is invaluable to all those who make bees a study for amusement, or business for profit."

"**Great cry but little wool,**" will express the present condition of the sheep interests. The sheep farmers are, like bee-keepers, having "a hard time of it," and instead of the former making *war* on the latter, they should sympathize with one another in their afflictions ! That this is true of the sheep interests is shown by the following items from one of our exchange farm papers trying to cheer up the sheep-men in their distress. It says :

> This is by no means the worst time sheep-growers ever saw. We have seen much worse. We have seen sheep slaughtered by the thousands, the pelts and tallow only being saved, the rest being fed to swine.
>
> We have seen people cursing sheep, and selling their flocks for from 50 to 75 cents per head, and have seen the same people within two years, paying from $2 to $3 for flocks to re-stock their farms.
>
> Are not the sheep, even at the low prices, paying as well as almost anything else on the farms ? And will it not pay to hold on to the flocks a year or two longer, meantime weeding out and improving as much as possible ?

It will be quite useless for Mr. Powers to try to make up his *losses* on sheep, by suing his neighbor (Mr. Freeborn) for an imaginary damage done by bees while visiting his clover pasture ! Had the bees not visited those clover fields and fertilized the sheep pasture, the *poor* sheep might have been *poorer* still !

The "*powers* that be" must have a more *powerful* argument than any yet produced by Mr. Powers, or it will be entirely *powerless !*

Mr. J. W. Tefft, of Syracuse, N. Y., has sent one of his reversible-frame hives to the Michigan State Fair. Speaking of his system of management and hives, he says :

> "The system adopted is as far superior to the old method of getting honey, as the mowing and threshing machines are to the scythe and flail. Still there are bee-keepers who cling to the antiquated and superseded processes just as there are farmers who cannot be persuaded to adopt modern agricultural machinery. By reversing the frames at the right time, the bees elevate the honey to the sections above, which also prevents swarming, and keeps the entire working-force at home."

The Kansas Bee-Keeper, which has struggled hard for a few months as a "weekly" bee-paper, has "succumbed to the inevitable." The last issue was dated July 25, and we are informed that the Texas bee-paper is to fill out its unexpired subscriptions. Mr. Scovell has struggled heroically to keep it up, but it was unavailing—it died for want of patronage. These are "hard times" for *new* bee-papers, and we *may* have to record the death of another very soon.

This stupid item is going the rounds of the press ; we captured it from Sunday's *Inter-Ocean :*

> A gentleman of Jackson county has a swarm of bees that gave him some trouble about staying in the hive. He concluded that the queen was out of pocket or dead, so he caught a wasp, extracted its sting, and tied it with a string. He then bored a gimlet hole through the head of the gum, drew the string through the same, and confined the wasp inside with same. Since that time the bees have been doing very well.—*Savannah (Ga.) News.*

The idea that a *wasp* could be substituted for a queen honey-bee, and cause the bees to be "doing very well," is supremely ridiculous ! What an ignoramus the writer of that item must be ! !

The harvest is past ; the summer ended ; but the bee-keepers generally say that it was the poorest season for honey that they have known for many years. This year has been disastrous not only to bee-keepers but also to supply dealers and publishers of bee-papers. But all must be brave, and while looking for "the good time coming," should hold on to the pursuit and be happy ! This reminds us of an anecdote :

> A little boy went to his mother with a broken arrow, and begged her to mend it for him. It was a very beautiful arrow, and the delight of his heart ; so his mother was not surprised when she saw his quivering lip and the tears in his eyes. "I'll try to mend it, darling," she said ; "but I am afraid it will be impossible." He watched her anxiously for a few moments, and then said cheerfully, "Never mind, mamma, if you can't fix it, I'll be just as happy without it."

As it is now impossible to obtain a good, or even an average honey crop this season, let all agree to "be just as happy without it." With friends, food and raiment let us be content—aye, *happy !*

Let us give a hint : A good way to help one another in these trying times, is for each one to pay, as fast as possible, any little debt that may owing. It is surprising how many debts a dollar or two will pay in a month ! Just try it, and make hundreds happy !

The Northwestern Convention.—In an editorial note last week, we stated that the annual Convention would be held in Chicago, on Oct. 14, 1885. We wrote to the President and Secretary concerning the meeting, but the President being away from home, "by a sick-bed," we did not receive his reply in time for last week's JOURNAL. We announced the meeting according to adjournment last fall, because some had inquired about it. We now find that the officers, having the deciding vote, have agreed to meet in Detroit, at the same time and place as the "North American" and "Michigan State" Conventions, on Dec. 8 to 10, 1885—as was suggested in the BEE JOURNAL last January and February (see pages 115 and 172)—the vote having decided it in favor of Detroit. One large and influential meeting will be much better than three smaller ones ; so let there be a grand rally on Dec. 8 at Detroit, Mich.

Preparations for Wintering Bees—says the *Indiana Farmer*—"should commence at once. In localities where there is a fair yield of fall honey, the bees will need but little help so early, but one should know that they are in the best condition to help themselves. Weak colonies or nuclei should be assisted with frames of brood from stronger colonies. Queens should not be cramped for room in which to lay, as is very frequently the case at this season of the year. Honey coming in slowly is apt to be stored in the brood-chamber, even though there be plenty of room above. We give much more concern to the age of the bees which are to form the winter cluster than to the size of it. Bees hatched out during the latter part of July, or in the month of August, go into winter quarters with their life about half spent, they do nicely and form a strong cluster until December or January, when they have worked out their allotted time and die."

QUERIES

WITH

REPLIES by Prominent Apiarists.

Losing Queens by Death.

Query, No. 111.—I bought a colony of Italian bees shipped from Michigan. The queen's wings were clipped. When they swarmed I picked up the queen from the alighting-board, and placed her in a clean, common tumbler. The hives were changed, and upon the return of the swarm, the queen was let loose at the entrance, and ran into the new hive. After the bees were all in, the hive was removed to its stand, and the old one replaced. The next morning the bees came out of the new hive, and a part of them returned to the old one, while the remainder came back. I found the queen dead at the entrance of the hive. I afterwards caught another queen and placed her in the tumbler. She also died while confined, which was about 20 minutes. A wire-screen was placed over the tumbler to prevent the escape of the queens. What was the cause of their death? They had not been harmed in any way by handling.—Nora Springs.

The queen must have been ready to die. It is difficult to explain all such cases. Of course every queen must die sometime.—PROF. A. J. COOK.

No one can tell the cause of death, from the information given above. There are many causes that might be surmised, none of which might prove correct. I should guess, however, that this queen was injured while being handled, in putting her into the tumbler, or in removing her therefrom.—J. E. POND, JR.

It is not safe to confine a queen long without accompanying bees. The first did not likely die from the effects of the confinement.—DR. G. L. TINKER.

I have often known queens to die when confined in any kind of a glass dish. The heat becomes unbearable in such a place. Always use a wire-cloth cage.—G. M. DOOLITTLE.

If the tumbler was placed in the sun, that would cause the queen's death.—DR. C. C. MILLER.

Why your old queen was killed is hard to tell. Perhaps strange bees mixed with the swarm, and they stung her. They would be more likely to do so, because her wing was clipped. You say, "Afterward I caught another queen." How long "afterward?" Where do you "catch" queens? Is not all this very indefinite? Perhaps this "caught" queen that died in the tumbler was stung before you placed her there. I suppose she was a virgin queen. The description is too indefinite—JAMES HEDDON.

If the tumbler was exposed to the sun's heat while the queen was confined in it, the reflection of the heat through the glass may have been the cause of her death. But the most probable cause was her efforts to climb the smooth surface of the tumbler to the top, and then falling back until she was exhausted. Doubtless she died from exhaustion. Two years ago, I removed a queen for one of my neighbors, to introduce another in her place, and his little boy put the removed queen into a glass bottle, and she struggled herself to death in a short time. Moral: Do not put queens into glass or tin cages.—G. W. DEMAREE.

Italian and Black Bees.

Query, No. 112.—Why do I find well-marked Italian bees in the same hive with blacks, or nearly blacks, when the brood is all from the same queen?—L. J. K.

That is very common with hybrid bees. Most persons without experience expect to see hybrid bees show intermediate markings altogether. Such is not the case. In all direct crosses between the Italian and German bees some of the workers will look like pure Italians, and some like pure Germans; and then, you will see bees of intermediate markings also.—G. W. DEMAREE.

If I am not mistaken, this is always the case when a pure Italian queen meets a black drone; in other words, the first cross.—DR. C. C. MILLER.

Well marked workers (all Italians and blacks) often result from mating a hybrid-Italian queen with an Italian drone. Hybrid queens may produce some well marked workers of both the parent races. In the case of a pure Italian queen mated with a black drone, I stated some years since my belief that the workers were marked more or less black, according to the number of spermatozoa entering the ovum in passing the spermatheca.—DR. G. L. TINKER.

Hybrid bees will quite frequently show this peculiarity of bright and dark bees in the same hive from the same queen.—DADANT & SON.

Either the queen has mated with an Italian drone, or else Italians from other hives mix in with the bees in the hive above mentioned. Hybrid (so-called) bees are variously marked; some are wholly black, some have one and some two bands; while some will have the full three bands and cannot be distinguished from pure Italians.—J. E. POND, JR.

A hybrid queen often produces black, hybrid, and three-banded bees.—W. Z. HUTCHINSON.

Because they are hybrids. This is very common. Often nearly all will be marked as pure Italians, while a few with less than three bands, and some all black, will show the admixture of German blood.—PROF. A. J. COOK.

During the busy working season, bees often, when returning loaded, enter other hives and remain there; but you do not say whether you have other colonies or not; nor how close by, if any; nor how many bees that so greatly differ from each other. I think it is possible for one queen to produce workers that do so greatly differ from each other, but it is very uncommon.—JAMES HEDDON.

Age of Queen before Laying.

Query, No. 113.—One of my colonies cast six swarms in 28 days from the time the first swarm issued. I found no eggs in the hive of the old colony, and thought them queenless; but two days afterward I opened the hive to give them brood, and I found eggs; this would make the queen over 12 days old before laying. Is it a common occurrence?—J. A.

I think so.—DR. C. C. MILLER.

It frequently occurs.—W. Z. HUTCHINSON.

I have known queens that did not commence to lay until 24 days old, but as a rule I expect to find them laying at 10 days old.—G. M. DOOLITTLE.

In my locality queens begin to lay (when speaking of the average) on the tenth day; but some few queens lay a few eggs on the ninth day, and a greater number delay until the eleventh, twelfth, and even to the sixteenth day. I would say that the case you mention is not a "common occurrence," but it does frequently occur.—G. W. DEMAREE.

There is certainly nothing uncommon in a queen not laying until 12 days old, or even older. They usually mate about the fifth day after emerging from the cell, and deposit eggs in about two days thereafter. I have had queens that did not mate, owing to stormy weather and scarcity of drones, till the 25th day after emerging from the cells.—J. E. POND, JR.

This is not very uncommon, I think, nor very exceptional. The old colony must have had a very great amount of brood. It is very unusual for a colony to be swarming 28 days after the first swarm leaves.—PROF. A. J. COOK.

There is reason to believe that bees may protract the time of sealing up a queen-cell several days. Again, some queens are tardy about mating. Some years since I had a queen that mated on Oct. 29; she was hatched on Sept. 30. She flew out a great many times, and often several times in a day, but refused to mate with a drone from the same hive from which she came, till after the expiration of 30 days. She was large and fine, but proved to be below the average in prolificness.—DR. G. L. TINKER.

This description is also very indefinite, and nothing is said at about what times during these "28 days" the swarms issued. Yes, it is quite common for queens to live over "12 days" before laying. They have been known to remain unfecundated nearly twice that length of time, and then become good, fertile queens.—JAMES HEDDON.

CORRESPONDENCE

Explanatory.—The figures BEFORE the names indicate the number of years that the person has kept bees. Those AFTER, show the number of colonies the writer had in the previous spring and fall, or fall and spring, as the time of the year may require.

This mark ⊙ indicates that the apiarist is located near the centre of the State named: ♂ north of the centre; ♀ south; O+ east; +O west; and this ♂ northeast; ⌐O northwest; O⌐ southeast; and ♀ southwest of the centre of the State mentioned.

For the American Bee Journal.

A Drone's Plea for his Sisters.

GEORGE W. YORK.

O, bee-men, won't you please listen
To what I am going to say,
Regarding my ill-fated sisters
Who toil for you day after day?

A selfish and hard-hearted shepherd,
In Wisconsin's fair land, I see,
Has accused them very unjustly—
And swears vengeance on ev'ry bee.

This shepherd has fields of white clover,
And claims he could easily see,
When grazing, his sheep were molested
By many and many a bee,

That came to the clover for honey;
(The charge he well knows is untrue),
And for sheep he lost the next winter,
The bee-man he's going to sue.

Now, bee-keepers, what I am after,
Is to ask you just to come out
And stand by the poor, harmless workers,
And show sheep-man what he's about.

I speak in behalf of my sisters,—
Who always are toiling for you,—
That you may bestow the attention
Which now is so justly their due.

The JOURNAL has already announced
That a "Union's" well under way,
To aid them in defending their rights,
On the great "Powers-Freeborn day."

Now, bee-keepers, please join this Union,
And thus help your "pets of the hive,"
By sending to Thomas G. Newman
The small sum of one-twenty-five.

Chicago, Ills., Sept. 9, 1885.

For the American Bee Journal.

Cell-Cappings, "Balling" Queens, etc.

17—G. M. DOOLITTLE, (50—100).

A correspondent writes: "What is the significance of finding in the morning, say from 20 to 50 little round caps of wax near the hive-entrance?" As far as my observation goes, the finding of such caps signifies that drones are hatching out; for if any one will take the time to examine, he will find that the drone, in hatching from the cell, bites the cover to the cell entirely off by a smooth cut, while the workers leave only fragments of the cappings of their cell-coverings in hatching.

The queen cuts off the capping to her cell the same as does the drone, except, as a rule, a little piece on one side is left which acts like the hinge to a door, the door often closing after the queen has gone out. If it thus closes, the bees often make it fast, so the bee-keeper is often deceived into thinking that the queen has not hatched. It often happens as soon as the queen has emerged from her cell, that a worker goes into the cell to partake of the royal jelly left in the cell, after which the cell-cover flies back, and the worker is a prisoner, which has caused many to think that the inmate of the cell was not a queen, but a worker; hence they call their colony queenless, and send off for a queen, or write to one or more of the bee-papers about the strange phenomenon.

Some suppose that the round caps spoken of by the correspondent, indicate the uncapping of cells of honey preparatory to the carrying of honey from the outside to the centre of the hive; but I think this is a mistake, as the cappings to honey-cells are gnawed off in little fragments, and not in the round form as spoken of.

BEES VISITING ONLY ONE KIND OF FLOWERS.

Another correspondent writes: "In gathering honey bees do not visit different kinds of flowers in one trip, but gather honey from one kind of flowers only." Now, if the correspondent had said that bees only gather pollen of one color, I should have agreed with him, for I never saw a bee with mixed colors of pollen in the pollen-baskets, although different colored pollen is put into the same cell. But when we come to honey, I have repeatedly seen bees fly from a gooseberry bush to a currant, and from clover to raspberry bloom, and *vice versa*. I have also seen bees gather pollen from white, red, and Alsike clover at the same time, but those clovers give the same colored pollen. I have also seen them go from the red variety of raspberry to the black, where the different kinds of bushes were planted side by side.

I used to think that if I planted for bee-forage, I must not mix the different kinds of plants, but after a close observation, I can see no cause for not doing so where it is more convenient to have the rows of plants mixed. When planting raspberries (one of our best honey-plants, and of great profit for its berries), it is better to alternate the rows of the red and black varieties, especially if it is wished to keep pure plants; for if the different kinds of red are planted side by side, the young plants will come up indiscriminately between the rows, unless a greater distance is used than is the usual custom. Nothing so disgusts a customer as to buy mixed plants.

KNOWING IT ALL.

Not many years ago this expression was used about a certain bee-keeper, "What he doesn't know about it, is hardly worth knowing." Well, if this is so, I should really like to see that man. Some 12 or 14 years ago I felt a good deal that way, but now I feel as if I was only just commencing to learn about our busy pets. In fact, I think I have learned more of bee-keeping thus far in the year 1885, than I ever learned during the same length of time in my life. The one item which I have lately given the readers of the BEE JOURNAL, relative to having all swarming done up just at the proper time, has been worth several hundred pounds of honey to me this year; for I could not have succeeded anything near as well by the old plans.

Let none of us get it into our heads that we know it all, but let us bend every energy to the advancement of our pursuit, giving our knowledge to others till the time when our business shall grow from where it now is, until it shall be acknowledged by all to be one of the foremost industries of the age.

BEES BALLING THEIR QUEEN.

A correspondent says: "A swarm came out on July 1, clustered, and was hived. In the evening they swarmed out and went back into the old hive, leaving a small bunch of bees in the hive; these remained six days, when they swarmed out. I found the queen with them. What made the most of the bees leave their queen and go back?"

The above is one of the most perplexing things which occasionally happens in the swarming season in a large apiary. The general cause is, that a few strange bees from another swarm, or elsewhere, get in with the swarm, and for this reason the queen is balled for safe keeping, or for some other purpose, just what I never knew.

Where the queen of a newly hived swarm is thus balled, the bees seem to think that they have lost their queen, and so return to the old hive, all except a few which are near the ball of bees. If they are stopped from going home, they will try to go into other hives. I used to get a large proportion of them killed in this way, by they trying to go into other hives, or else I had to let them go back until I learned how to keep them from going back.

At first I hunted out the queen by smoking the ball of bees until they released her, when she was caged and placed between the combs, or hung down from the top-bars of the frames when no combs were used. In about one-half of these cases this satisfied them, while at other times they would ball the cage, so it did no good. I now get the queen as before, but instead of using a common cage, I make a large flat one to reach clear across the frames. Into this I put the queen, and lay it on top of the frames, when the bees can get at her through the wire-cloth between every frame in the hive, which satisfies them. The next morning I let her loose and remove the cage, when all goes well.

Borodino, ⊙ N. Y.

For the American Bee Journal.

Correctness in Reporting, etc.

W. H. STEWART.

I fear that some may conclude from the article by Mr. C. A. Hatch, on page 503, that I was not very careful to get at the facts. Mr. Hatch quotes me thus: "W. H. Stewart says that J. C. Hatch has lost all of his bees, blown over by a tornado." If my article on page 471 is read carefully, it will be found that I did not state that Mr. J. C. H. had lost any of his bees. It will be seen also, that the words "lost" and "tornado" are not in my article at all, and that I stated in my third paragraph, that "I am not informed whether Mr. Hatch saved any of his bees or not."

Mr. Hatch is very kind to state that he has "no fault to find with Mr. S.," from the fact that "it was so reported in our local paper at the time." All will see that what I wrote in my first paragraph. on page 471, about those bee-hives being turned over, and fences and orchards blown down, is quoted, showing that the statement was not original with me.

Now I do not write this for the purpose of criticizing Mr. Hatch, but rather as a plea for those who write articles for the press. It cannot be expected that a reporter is to have absolute knowledge that all he reports is true. No reporter can be omnipresent to see and hear every item that he wishes to report; but he is dependent, in a great measure, upon the statements of others, and must give the facts as nearly correct as he is able to do under the circumstances; and all editors desire such reports.

Many bee-keepers have, this season, reported that 25, 50, and some as high as 75 per cent. of the bees in their locality were lost last winter; and the Editor of the BEE JOURNAL has requested bee-keepers to report in regard to these things; but no editor or intelligent reader expects that such reporters have visited every apiary and learned by personal observation just how many bees each bee-man in his vicinity had in the fall, and how many were left in the following spring. Each reporter has had to base his report upon "flying reports" and statements of others; and when he has given the facts as correctly as possible under the circumstances, then he has done his duty, and is justifiable; but when we, in writing for any paper, quote the statements of other writers, we should be careful to use quotation marks, and thus save much space that is often necessarily occupied in correcting misrepresentations. I often re-write my articles several times for the purpose of correcting every error, and I wish to have it understood that I am careful to give them the best that I have, and as nearly correct as possible.

Mr. Hatch says: "Serious results might have followed had not brother and father hastened to the rescue, and restored the covers as good as it was possible in a drenching rain." He also gives us to understand that a portion of the hives were "upset by the wind." This shows the importance of protecting the hives against the high winds. This is what prompted me to write the article that appeared on page 471, and the many private letters that I have received from different bee-keepers, since they read my article, show that many have been discussing ways and means to secure safety against wind-storms. Some have given me very good ideas, and I think that they would do well to make their plans public.

I am happy to learn that Mr. J. C. Hatch and his father saved their bees; but if they had been absent from home at the time of the storm, what would have been the result? Perhaps it would have been much better to have lifted the rocks, as I do many times.

Orion,♀ Wis., Aug. 17, 1885.

Philadelphia Times.

A Bee-Farm near Philadelphia, Pa.

A REPORTER'S DESCRIPTION.

A tortuous path, overhung with crooked old trees, leads from Germantown lane to the Wissahickon bee-farm, one of the largest in this State. It is in a picturesque and historical locality. Near by is the burial-place of several monks, who long ago tenanted an adjoining monastery, since merged into a farm house. The Wissahickon bee-farm has 120 hives, with about 25,000 bees in each hive, placed on terraces and watched over by hundreds of sunflowers.

"You are in luck's way," said Arthur Todd, the proprietor. "One of my colonies is swarming. It is unusual and undersirable at this season. The weather has been so mild that the bees have mistaken it for spring."

A cloud of bees was rising in the air. It hovered about a hickory tree and disappeared among its topmost branches. Forty thousand bees accompanied by their queen had alighted, and the apiarist proceeded to capture them, which he did by using a "smoker" and a wooden box. He climbed the tree without any face covering, and took the insects by handfuls without being stung.

"Now these fellows want to start house-keeping on their own account," he said, "and I must furnish them a home, or they will fly away. Scientific bee-keeping has rendered this easy of accomplishment. The hives are all of one size, so that frames can be put together with dispatch."

A hive was rapidly constructed, and the master of the bees scooped them up with both hands, placed them on the tops of the frames filled with comb foundation, and the bees at once went in and the cover was put on.

"Now just listen to their hum," said Mr. Todd. "It's a different hum to their ordinary one. They are starting a fresh colony, and the hum is a song of rejoicing. By-and-by the hum will be subdued—that will be a contented hum. Yes, bees express their feelings. Those with vicious tempers will hum about like a buzz-saw. The Cyprian is one of that class. It is a good worker, but it is such a stinger that bee-keepers will not have much to do with it. The Italian bee has a low, sweet hum, indicating docility. It won't attack you unless it is provoked. Then it dashes about like a moth after a light, and its hum says plainly, 'I am mad.'"

Bees are instinctively industrious, which accounts for their hatred of thieves. Their laws are unwritten, but severe. Illustrative of this: Several robber bees had entered a hive and began stealing honey. Sounds of wrath were immediately heard within. Soon afterwards a crowd of bees came outside, where they ferociously assaulted each other. The war lasted two hours. At dusk over a hundred dead bees were lying in front of the hive and the bees were bringing out their slain foes and throwing them about irreverently.

A pretty specimen of a stately Syrian queen-bee was pointed out. Its mother was born in the Holy Land. It is two months old, and may live three years. It has a golden shield on the thorax, and a small mark like a black half moon. It is swift on the wing, flies a long distance in search of flower petals, and is strong and active. The race is numerous near Jerusalem. Monks residing there believe that Syrian bees have descended from the first bees given to man.

The introduction of the queen-bee into a colony is an important item in bee-farming. She is put in a separate cell, with provisions. The bees eat their way into her cell and escort her thence to their combs, where she wanders about, always with innumerable courtiers in her train. If she entered a cell without this introduction, she probably would be killed.

The baby-bee is hardy from the time it leaves its cell and is strong enough to fly. It is not allowed that liberty, however, until it is domesticated. The big bees teach it how baby-bees ought to behave when at home. It nurses the grubs, and serves the young queens with food. When it is perfect, it goes out with its elders in quest of honey, and soon develops into an elder itself.

The principal sources of food are the maple, poplar, and "jolly smoker" trees, which abound in the neighborhood of the farm. There are clover fields not far away, whose crops are fertilized by the bumble and honey bees that visit them. Mr. Todd has seven or eight acres of buckwheat, representing the winter supplies for the bees.

"There is one matter connected with bee-farming," said Mr. Todd, "that has not been ventilated much as yet. The bee-laws are imperfect; indeed, they are in a chaotic state. They are not sufficiently defined to protect bee-farmers against people who are so ignorant as to suppose bees will molest cattle and destroy crops. A case is now in the courts in which a bee-keeper named Freeborn is being sued by a farmer for $500 damages done by bees on the clover fields of the plaintiff, and preventing his sheep from grazing. A Bee-Keepers' Union is the outcome of this action.

"The stings of bees are used by homœopathic doctors in the form of a medicine called "apis," as a remedy for rheumatism, diarrhea and several other ailments."

For the American Bee Journal.

Waxing Kegs and Barrels.

W. S. HART, (117—148).

On page 516, in reply to Query No. 100, it seems to me that none of the replies even hint at the true reason for which, in my opinion, all honey kegs and barrels should be waxed inside. Mr. Doolittle gives plain directions for doing the job, without reference to the cause of its being done; all the others infer that it is to prevent leakage. Surely these bee-keepers of wide experience have heard of its being done to prevent the wood from imparting a disagreeable flavor to the honey! Why do they ignore this cause? My barrels are first-class in every respect, and I fear loss by leakage as little as by fire, and I wax all of the barrels before filling them with honey.

In this country where timber is plentiful and rock and clay scarce, almost all of the wells (except the Artesian ones, which are cheaply obtained and quite abundant) are curbed with wood. The water from these wells for the first few years, has so marked, and to most people disagreeable, a flavor that many new-comers will go thirsty for a long time before drinking water even from a well in this neighborhood, that has been curbed with cypress for the past 15 years.

All woods impart more or less flavor to the water. There are large quantities of lumber cast upon our ocean beach, and it consists of almost every kind of wood, but of all these and of our own varieties, cypress is one of the least objectionable on this account. It is true that a person very soon becomes accustomed to this water, and then does not notice it; but only a very few would care to get used to honey that was flavored with it.

Notice the taste of water from a new wooden bucket. Now, if water that stands for a short time only in a curb that has been soaking for 15 years, becomes unpleasant to the taste, surely there is reason to fear the effect of new barrels on a liquid like honey that is so ready to absorb flavor from almost any source. Nor is this all theory. I have often tasted honey that, after standing in a barrel for some time, had a flavor entirely different from what it was before being put into the barrel. I have tasted extracted honey in the North that, although I was assured it was "pure white clover," and I knew it ought to be very good, still had something about its flavor that for me made it less desirable than good molasses. I may be wrong, but it would take considerable to convince me that the honey would not have been better if the barrels had been well waxed before being filled.

Many people have an idea that they do not like honey; others only want a little at a time, as they soon tire of it. Is this because honey will not "wear?" Is it a fact that honey is a sweet that to be relished must be taken in small quantities, and at long intervals? No! it is because people have formed their ideas of it from "strained," and poor grades of strong flavored extracted, or good grades of extracted honey that have been spoiled after being taken from the comb. My neighbors who can buy the unexcelled Florida syrup for a less price, come to me month after month and year after year for my black mangrove and palmetto honeys, and do not get tired of it. We cannot be too careful about keeping our goods up to the highest standard, and knowing this, although cypress is one of the very best of woods for honey barrels, I wax them every time, and believe that it has much to do with the universal praise that my customers in the North bestow upon my honey.

As to the cost of waxing barrels, let me say if it is properly done the expense is not as great as would appear from the replies made on page 516. Paraffine of a suitable quality can be obtained from 14 to 16 cents per pound by the quantity, and is much cheaper than beeswax, not only on account of its lower price, but also because it takes much less of it. The replies to the question of "the best method of waxing honey kegs and barrels," were all right as far as they went, but perhaps I can give a few points that will help to save the waste of wax and thereby reduce the expense to the lowest figure.

First, put the barrels out where the sun will shine full upon them, tighten up the hoops and "blow off" the barrels to see that they are tight. This "blowing off" is done by blowing with the mouth into the barrel through a small hole until all the air is in that you can force in, then hold the thumb over the hole for a couple of minutes. If the barrel leaks, the hole can easily be found by listening for the sound of air passing out. If they are tight, all the air will come out where it went in, upon removing the thumb from the blow-hole.

Now while a couple of gallons of wax is heating, get everything in readiness. It is better to use a large plug six or eight inches long, and with a true taper from one end to the other, instead of a bung; for this can be put in place in a moment, and some part of it will be a fit for the hole, and if made large enough plenty of it will stick out to allow of quickly loosening it when ready to do so. Have a hammer and everything that is necessary right where you can put your hand upon it at once. When nearly ready to commence waxing, wet the floor thoroughly, and also wet a newspaper; bring in the barrel and lay the wet paper over it; poke the funnel down through the middle of it and into the bung-hole; fix the barrel so that it will not roll over, if the bung-hole is in the bilge. Now bring the wax bubbling hot, and pour it all in; put the funnel on the floor, drive the plug quickly in place with the hammer, and twirl the barrel first on its heads, then back and forth on the side as it is being rolled over. Stand on one side as you knock the plug loose, and when that flies out, turn the wax into a pan and heat it for the next barrel.

By having the barrel hot, and enough wax to keep hot and to coat the inside of the barrel quickly without missing any spots, very little wax will be used to the barrel, and yet the job will be thoroughly done. By thoroughly wetting the floor very little care need be taken to prevent spilling the wax, as it will not adhere to the floor, and can be easily swept up and saved. Almost always a little is spilled, and except for the wet paper, some would fall upon and adhere to the outside of the barrel, which would not only be lost, but greatly injure the barrel's appearance.

New Smyrna, Fla.

For the American Bee Journal.

Bees and Calves.

C. W. DAYTON, (58—116).

My bee-yard occupies about half an acre of ground, and the hives average about 6 feet apart, from centre to centre. For the last two months it has been used as a pasture for three calves, and though the air has often been filled with flying bees, the calves have always grazed as freely and unconcernedly as could be. Only once have I known a calf to receive a single sting, and that was when two of them had been fighting, and having turned bottom upwards a hive having a loose bottom-board, exposing the cluster of bees, a calf came up to smell of them. The presence of the hives with bees is no more of a detriment to their feeding than so many empty boxes would be.

When the calves were first turned into the yard, I expected the bees to take care of themselves, but since four or five hives have been turned over, and about five covers a day having been knocked off, the calves have been turned out of the bee-yard for the safety of the *bees*.

Some who had supposed bees to be a terror to anything showing signs of life, have been made to wonder at so little attention as bees really do pay to stock; and have often been heard to exclaim that it was strange that the bees did not sting. The fact is that the bees have not been treated in any way to make them cross, which is usually done by rough manipulation, robbing, etc. My bees are mostly hybrids. Whether bees will molest sheep sooner than calves, I cannot say, but I should hardly suppose that they would.

With us the white honey harvest was very short, and a fall crop is not expected, as we are having frosts every morning.

Bradford, Iowa.

For the American Bee Journal.

Ohio Bee and Honey Show.

EARLE CLICKENGER.

As I had the honor of being the Superintendent of the Apiarian Department at the Ohio State Fair, which began on Aug. 31, I would say that our show of bee-products was not as large as usual, on account of almost an entire failure of honey in central Ohio. The main premiums were awarded as follows:

For the finest case of comb honey, Brigham & Claybaugh, of New London, O.; display of comb honey, A. S. Goodrich, of Worthington; display of extracted honey, Dr. H. Besse, of Delaware; display of comb and extracted honey, A. S. Goodrich; manipulation of a full colony of bees, C. A. Jones, of Delaware; best nucleus of Italian bees, the Superintendent of the Apiarian Department; display of queen-bees, Aaron Benedict, of Bennington; sample of beeswax, Mrs. Jennie Culp, of Hilliard; beeswax extractor, J. W. Newlove, of Columbus.

The bee-keepers held their meetings in the Apiarian Hall, the convention being called to order by the President, Mr. A. I. Root. As there was no important business to be transacted, the time was occupied in discussing topics that were of interest to bee-keepers.

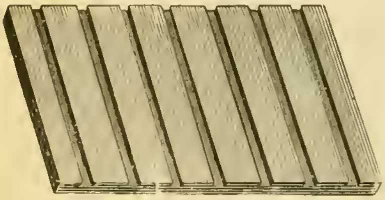
Columbus, O., Sept. 9, 1885.

Farmer's Advocate.

Method of Transferring Bees.

G. B. JONES.

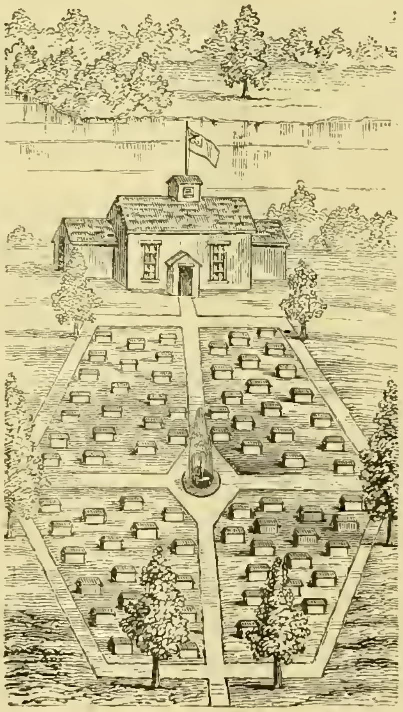
My method of transferring bees from a box-hive: Choose a warm, sunny day, when the bees are very busy on apple bloom. In the shade of a tree or building some 200 feet from the bees, prepare a table or box to work on. Have a milk pan, two large meat-dishes, a dish-pan half full of water, and a pail of water near; also two or three dish-towels, a honey-knife, a large rough knife, and a pruning or pocket knife. You will need, too, an old chisel and a hatchet or hammer, a transferring board, and a good supply of transferring sticks. Without the board you cannot do good work, and the sticks will pay their cost several times to each colony. You will need ten to twenty pairs of sticks per hive. They may be used over and over again for years.



Transferring Board.

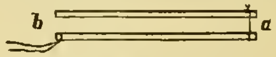
Now make a rough box to fit upon the bottom of your box-hive and about a foot deep; leave the fitted end open. Smoke the box-hive thoroughly, and carry it some 50 feet from its present stand. Turn it bottom up, but without the bottom-board, and place the box you have made over it, open side down, and wrap a cloth about the joint and exit to make all bee-tight. This done, take a heavy stick and beat the side of the box-hive till the queen and nearly all the bees have clustered in your rough box, which will be in about 15 to 20 minutes.

Place the box, bees and all, in the exact place from which you removed the box-hive, open side down, but with its front edge raised a little to make an entrance. Carry the box-hive to your shady place, and set it upon the ground at one end of the table, and have the body of the new hive in a meat-dish at the other end. With a rough knife cut the comb loose from one side. (The side of the hive is that piece which is opposite the face of the combs). With chisel and hammer remove this side. One at a time, cut away the combs and lay each upon the transferring board, which have on a slant so that the loose honey will drain into a meat-dish below it. Cut away all the comb containing honey only, and put it into the milk-pan.



Apiary of Mr. G. B. Jones.

When you have sufficient brood-comb upon the transferring board to fill one frame, place a frame over it and fit the comb into a frame as you would patch a floor or lay a pavement; when done, slide the unwired end of a transferring stick down one of the grooves of the board as far as it will go, and fasten the end with the free wire to it securely by twisting the wire around it. Use as many sticks as necessary, but no more. As each comb is transferred set it into the new body to drain. When all are ready, fit a bottom to the body; interspace as many frames of foundation between the combs as are necessary for the colony; put on a quilt and cover, and place the new hive upon the stand previously occupied by the box-hive. Now shake all the bees from the rough box down upon a sheet spread in front of the new hive in such a position that they will easily run in.



Transferring Sticks.

To transfer from a movable-frame hive, the rough box and drumming will be unnecessary—just shake them off the combs to the sheet, and put in the combs and foundation when ready. In two or three days the combs will be secure, and the sticks may be removed. If the bees are not gathering sufficient honey for themselves, feed them by laying some pieces from the milk-pan upon the quilt; make a passage-way by folding back one corner of the quilt.

Brantford, Ont.

For the American Bee Journal.

Bee-Houses and Foul Brood.

FRANK CONNER.

I am thinking of building a bee-house the coming winter, about 80 rods from my apiary, in the centre of a piece of timber land. There is a good spring of water there, and I thought that I would build over the spring a double wall, each wall one foot thick, and fill in with earth, leaving a dead-air chamber of 6 inches; and fill in overhead with sawdust 18 inches deep. I would like to have the opinion of some of our experienced bee-keepers on the subject, through the BEE JOURNAL.

Last winter I packed all of my colonies in chaff, and lost every bee that I had—16 colonies.

It is reported that foul brood exists in some parts of this county (Ionia), but not in this neighborhood. The following item is taken from the Ionia *National:*

"A petition signed by 16 bee-keepers in this county, representing 531 colonies, was presented to Judge Balcom on Aug. 3, praying for the appointment of a commissioner to prevent the spread and to eradicate the disease known as foul brood among bees. The petition recites that this disease exists in several apiaries in this county, and the owners refuse and neglect to destroy the same. This is the first petition of the kind ever filed in the Probate Court in this county. Judge Balcom, in response to this petition, has appointed Mr. J. H. Robertson, of Pewamo, a commissioner to prevent the spread of foul brood among bees."

As we have had so much on the cause of losses of bees in winter, let us now have a little on bee-houses and foul brood, as "an ounce of prevention is better than a pound of cure."

Muir,⊙ Mich.

For the American Bee Journal.

Hives with 8, 10 or more Frames.

C. P. DADANT.

Mr. Heddon is surprised that I differ so widely from him in regard to the capacity of hives. He says, first, that location and climate may have much to do with it. Our management with large hives has been tested in the north, south and west of France, in Switzerland, and Italy, as well as in the United States, and has given the same results, *i. e.*, a larger per cent. of honey and a largely decreased percentage of swarms.

Do not think that these large hives were adopted without contest. My father, Chas. Dadant, had to contend for years with men who, like Mr. Heddon, thought that the small hives were best, but would not stop to reason on the laying-capacity of the queens and the room required to keep them busy. These same parties argued that our better success was due to our better location; that Europe could never produce such crops as the United States, etc. In spite of all this, the large improved Dadant-Quinby hive, as large as a 12 or 13-frame Langstroth hive, has won the day wherever it was tried; and this success is due nearly altogether to the greater room it gives to the development of the colony.

Mr. Heddon agrees that most queens can lay 3,000 eggs a day, and even more. If we suppose that we have, in the same apiary, an 8-frame hive besides a 12-frame hive, we will see that, about April 20, sooner or later, according to the season, in a properly conducted apiary, the two hives will be about filled with brood and pollen with sufficient honey to carry them until the June crop From this date, or, in an ordinary season, the queens will lay to their utmost capacity till the crop begins, say June 10. Thus about June 10 the hive which gives its queen the most room, will have some 50,000 more bees, hatched or hatching, than the other; or in other words, the larger hives will have a population one-half larger than the smaller one. If the crop of the smaller hive is 50 pounds during the clover harvest, the crop of the larger will be 75 pounds, of which 25 pounds may be placed in those lower combs, to which Mr. H. objects so much.

Mr. Heddon wants all the honey in the upper story, and says that he will feed sugar syrup for winter. How long does he intend to follow that up? and how many of our practical bee-men does he think will follow that method?

This matter of taking all the honey for sale, and feeding back sugar syrup, is indeed very nice in theory, and can be carried through, as I have no doubt Mr. H. will do it, since we tried it ourselves on a small scale; but it will never be a practical method, and all our large honey-producers will prefer wintering their bees on good clover honey harvested by the bees without the use of the reversible frame. Remember that we (Mr. H., myself and others) are here writing for farmers who are willing to follow the best methods of producing the most honey from the least number of bees, provided these methods are safe, expedient and prompt.

To recapitulate: With a large hive we need not feed so often in the spring, as there is more room in the brood-chamber, and we can leave more honey, or return more combs. We need not reverse the frames, as we are willing and anxious that bees should put a part of their clover crop in the breeding apartment to winter on.

We do not have so many swarms, as the queen is not cramped for room; hence, do not have to keep so many empty hives on hand. We produce more bees from the same number of colonies, and have less handling for the same amount of production. After the clover crop is over, we do not have to watch or feed our bees for fear of starvation between this and the fall crop, since we have plenty of honey in the breeding apartment of the hive.

When winter comes we do not have to buy sugar and feed, and give a chance to the malicious part of the community to say that we are buying sugar to make honey. When winter comes we can reduce the hive with a division-board or contractor, leaving the best frames of honey for the bees to winter on, filling the empty space with chaff or leaves, or some other non-conductor. At all times our hive is stronger, and can better stand through the "ups and downs" of the business.

Hamilton,+o Ills.

For the American Bee Journal.

Prevention of Swarming, etc.

W. A. SHEWMAN.

Believing that I have been successful in the management of a few colonies of bees, in the production of honey, and prevention of swarming during the honey-flow, this summer, it may be of interest to some if I describe my methods, although not entirely new, yet a different practice from anything I have noticed in the BEE JOURNAL.

I began in the spring with 7 colonies in Simplicity hives, only 4 of them being average colonies, and the others weak and did not bid fair to amount to anything. They were all fed liberally in the spring, on sugar syrup, one as much as the other, and in due time they were bred up from seven-frame colonies to full ones.

Heretofore I have given all the frames that a hive would hold, being an average of twelve, but it seemed to me that that number was more than could ever be used to advantage, so I made false frames for each end of the hive, leaving room for only nine frames; these were filled with brood in due time, and the four best colonies were ready for business when the white clover flow arrived, It did not take long before they were ready for the sections; and I was ready for the bees with plenty of upper stories. The weak ones were not ready for the sections until the basswood was well along.

From all that I have read, there has been no sure method found to prevent swarming, and my experience in years past was that swarms issuing in the midst of honey-flows greatly decrease the surplus honey crop. I attempted a plan to prevent swarming, and it has been a complete success; but what has been true in one season in manipulating bees, may not hold good in other years, hence my method may not do to adopt; nevertheless I am so well satisfied with it that I shall repeat it until it fails, or something better is discovered. It is as follows:

During the white clover season, and about the time I thought the bees might be making arrangements to swarm, the upper stories were removed and a frame of sealed brood taken from each hive, shaking off the bees, and a frame of foundation inserted in its place. This gave the queen a chance to work in a large number of new cells, and by the time she had filled it with eggs, cells in other frames were made vacant by young bees hatching out, and she found all the work she wanted at home.

Whether that was so or not,—there was no inclination to swarm, and the bees were all kept together and filled the sections with a vengeance. Then again, when the basswood came on in full flow the same treatment was given the four best colonies. The weak ones I knew would not swarm, and they were only given top stories. The frames of brood taken from the hives were placed in empty hives, two and three in a place, to form nuclei. I had some doubts about the brood hatching, as it is said by those "old advisers," that it requires bees to take care of the hatching brood. But I never saw brood hatch better; they all got along as well as could be asked, and soon made nice, young colonies. When they had all hatched, I procured fertile queens, and found no trouble in introducing them into their new homes.

Now what was the result of non-swarming? If some of the bee-keeping fraternity could take a peep into my honey-room, I do not think they would be long in deciding. But as I cannot show all, a few figures will present the result to many who cannot come in and see. It might be proper here to say that the weather during the white clover season was cold, and the larger amount of surplus honey was secured from basswood, which, in this vicinity, lasted for eleven days. The following numbers will represent the colonies and the honey taken from each :

No. 1, hybrids......	113 lbs.	9 oz.
No. 2, Italians......	71 lbs.	10 oz.
No. 3, "	62 lbs.	12 oz.
No. 4, "	51 lbs.	7 oz.
No. 5, "	28 lbs.	15 oz.
No. 6, "	19 lbs.	10 oz.
No. 7, "	10 lbs.	14 oz.
Total, 7 colonies....	358 lbs.	13 oz.

The above was all stored in two-pound sections, and each section accurately weighed. Had it not been that No. 2 swarmed out on account of my absence for a few days, there is no reason to believe that it would not have done as well as No. 1. The swarm came out on the next morning after my return, and I removed the old hive, put a new one filled with combs drawn out, on the old stand, put the bees into it, and gave them the upper story. Thus I got the field bees that were out, in with the swarm. They had to fill a new set of frames by the operation. The old colony was used to make new ones. Just what the difference was cannot be given, but I do not think it over-estimating to say that it would have made the total a round 400 pounds. Eight new colonies have been made from the 7, and so I have 15 ready for winter.

I aim to keep all Italians, but the queen in No. 1 was from a good Italian strain, mated with a dark drone. Her bees are about two-thirds well marked Italians, the rest being as black as any bees could be. I cannot account for it, but the black bees in that hive are much more active while at work than the others. They go out and in like a "black streak" of lightning.

In writing the above, I do not seek to set an example in this pursuit. I keep bees because it is a very pleasant recreation, and for what little time I can devote to it aside from office duties, I receive much benefit. If others approve of the method herein given, and any one is benefited, I shall feel repaid for having tried to explain it.

Randolph, ♀ N. Y., Aug. 29, 1885.

Prairie Farmer.

Irascible Bees—Italianizing.

MRS. L. HARRISON.

Several times this summer, members of the family have politely requested me to brimstone a certain colony of bees. They declared the bees an intolerable nuisance, though one of the best in the apiary in strength and honey gathering. As I have never brimstoned a colony, I do not intend to begin on this one. As soon as the honey season closes, I propose to introduce a new queen, and by another season the fighting bees will all be gone. I shall feed the colony for two or three days, before I try to remove the queen, so if possible to mollify their temper. If I can discover the queen by removing the combs, they may not get greatly excited, but if I have to brush them off and put them into a new hive and run the bees through a queen-excluder, I may have the whole colony about my ears ; yet that queen must be removed at all hazards.

Those desiring to Italianize their bees, or remove undesirable queens, can do so cheaply now, as untested queens are so low by the dozen, and no time will be lost; the only draw-back will be the uncertainty of wintering. A very successfuly bee-keeper in this State removes in the fall all the queens that are three years old, and claims that he makes money by so doing, as old queens, like old hens, lay but few eggs.

Peoria, ⊙ Ills.

For the American Bee Journal.

The Honey Crop, Bee-Cellars, etc.

7—DANIEL WHITMER, (75—180).

When at the Northwestern Convention held at Chicago last fall, I reported that my last year's crop was 3,500 pounds; but I now correct it and wish to say that it was 4,000 pounds. I get all of my surplus honey with small V-shaped starters in the sections, as I think it too expensive to use full sheets of foundation at the present price of honey. In this locality the market was injured by some injudicious bee-keepers who came to South Bend with honey from Michigan, and sold it at 10 cents per pound, thereby not doing justice to their fellow-bee-keepers. I am very sorry that some honey-producers should pursue such a course.

Last fall I prepared 157 colonies of bees for winter—67 were put into a cellar repository, and 90 were left on the summer stands. I succeeded in wintering 83 colonies, but only 76 were in fair condition, the other 7 being merely nuclei. I now have 180 colonies in good condition, and will give the report of my honey crop when the season is over. I will say, however, that I have taken nearly 5,000 pounds of white honey.

Of the colonies wintered in the cellar last winter, I lost none. I favor cellar-wintering, and my bees had natural stores—plenty of honey and pollen.

My bee-cellar is situated on the east side of the main two-story part of my house, under the kitchen. I have three cellars, one for produce, which is under the main part of the house, the long way of the building, north and south, and is 18x24 feet. It has three windows, two on the west side and one on the east, all above ground. It has one outside door at the north end, and one entering the bee-cellar at the west end. The bee-cellar has another door at the north side (the long way of the bee-cellar being east and west), entering the third cellar (the long way of which is north and south). Another door entering the third cellar from the outside at the north end, is the aperture through which I take my bees in and out, and through which I get perfect ventilation to raise and lower the temperature in the bee-cellar. It will be seen that I get ventilation through another cellar into the bee-cellar.

The bee-cellar has two windows, one in the south side, and one in the east end, all above ground. The windows have sash with double lights, and are hung on hinges, and can be raised when no bees are in the cellar. On the outside of the window-frames I have wire-screen to exclude mice or other vermin that might infest the cellar in summer. I darken the windows with straw on the outside, and between the screen and window sash, so not a ray of light can penetrate the cellar, except as I wish to examine the temperature of the cellar when I use a lantern.

The bee-cellar is 6½ feet in depth, and has a gravel bottom, and is perfectly dry. It is not ceiled above. In the kitchen above, 8 feet from the east wall of my bee-cellar, I have a brick flue for the cook-stove. My bee-cellar is 14x24 feet. Behind the flue, and from the bee-cellar below, I have a pipe 4 inches in diameter, intersecting the chimney with an elbow just above, and opposite the entrance in the chimney for the stove-pipe. On the lower end of the pipe in the cellar, 18 inches below the floor, I have a funnel-shaped ventilator to draw out the impure air of the cellar, and it is a success. By placing the hand in the mouth of the funnel, a draft of air can plainly be felt. The funnel is 12 inches wide at the bottom, and 10 inches high. I keep a thermometer in the centre and 4 feet from the bottom of the cellar, and an even temperature of 45° Fahr. was obtained during the past winter for about five months.

I leave the full size of the hive entrance open, which is ½x11½ inches. I use the Heddon-Langstroth hive, and want no other. I place the hives one upon the other, next to the wall, with the honey-boards inverted on top of the hives, leaving a ¾-inch space between each honey-board and the brood-frames, with an absorbent on the honey-board. On the absorbent I place two strips of wood between the hives, leaving spaces between each tier, as they are piled on top of one another. I open and shut the doors of the bee-repository and the adjoining cellars as may be required for the comfort of the bees. The colonies on the summer stands had the hive-entrances wide open, and honey-boards inverted, with absorbent, and the caps filled with planer shavings. But cellar-wintering is best for this locality.

My apiary is located on sandy and gravelly soil, and has, on the south side, a large orchard, and west of the orchard, apiary, buildings, etc., there is a dense forest of young, vigorous oak, hickory, etc., from 20 to 50 feet high, which makes quite a valuable protection against wind-storms and severe cold.

I will say that cotemporary with Mr. Heddon, I have practiced the "contraction system," both for summer and for winter, for four years, more or less, contracting the hives to five frames, and I like it very much for the production of comb honey and for wintering. I did not use the method to exclude pollen, for that I want them to have as "bread" upon which to spread their honey, and make it palatable for themselves and "babies."

South Bend, Ind., Sept. 4, 1885.

Exchange.

Improvements in Bee-Culture.

J. A. MOYER.

Much has been said and written about the honey-bee. Perhaps in all ages it was known, and to go back as far as the first King Saul, while in his hasty pursuit of the Philistines, when they came to a wood where there was much honey—so much that it dropped—Jonathan, the son of Saul, dipped his staff in a honey-comb and put it to his mouth; and back again to the promise to Moses, to possess "a land flowing with milk and honey." And so on down as far as we have any history of man, to the earliest settlers of the country, we see the "sweet companions" to man even in their wild state.

Take our grandfathers' days, when they saw the need of domesticating the bee. See the culture they then received—hived in salt-barrels, hollow-logs, or whatever they could be sheltered in—it was the beginning of bee-culture here. There they toiled busily from day to day, gathering honey from the wild-flowers, for their sustenance and comfort during winter. Meanwhile the early settler was busy with his axe clearing away the dense forests preparatory to cultivating the soil and reaping the benefits therefrom, so as to enjoy life. But in this early culture, what was the condition of the bee when the honey was required? It was cast over fire and brimstone long enough to extinguish the life of the helpless creature; then robbed of the store it toiled all the summer to gather.

When we come on down to this century, we see the change from the man gathering the harvest with the old style hand-sickle, to that of the present times, with the farmer in his broad acres of golden grain with self-binding reaper, doing the work of many men under the old style, and saving much hard labor; and doing all other branches of mechanical work by rapid machinery, and the beholder is led to exclaim, "What an age of improvements!"

But turn one glimpse to the apiary and we readily see the minds of the bee-keepers have not been dormant during this age of improvements. Instead of the old log-gums about the fence-corners, we see the large lawns filled with beautiful, painted, movable-comb hives of various styles; the need of first taking the life of the bee before the honey is secured, is done away with.

Again, we notice the extractor, by which the honey is taken out of the combs by centrifugal force, and the empty combs may be returned, and the bees can refill them several times while they could build new combs. This explains to the honey-consumer why pure extracted honey is cheaper than comb honey. With the wax-extractor the waste scraps of combs are extracted by means of steam, and by the use of the comb foundation press, this wax is again made into combs, thus saving the bees the greatest portion of their time for honey-gathering; and making one colony of bees worth to the owner about seven times as much as under the old *regime*. One man practicing the old system of keeping bees would have to keep about 7,000 colonies to equal the modern man with 1,000. Other equally important improvements in supplies for the apiary are too numerous to mention. Still, with all the vast improvements, I believe that bee-culture is yet only in its infancy.

Wapakoneta, Ohio.

Translated from the German *Bienen-Zeitung*, by Alfred Neighbour.

Winter Temperature for Bees.

DR. DZIERZON.

In winter all nature is in a state of complete repose. In a bee-hive also almost everything is perfectly quiet then. In a state of torpor our favorites await the time when the sun will again rise higher in the sky and returning spring awakens them to new activity.

But every colony does not awaken from its slumber; many communities never return to life again. It all depends whether the bee-keeper has done his duty in making judicious and careful arrangements for wintering his colonies safely. Although bee-keepers are pretty well agreed as to the requirements and conditions of wintering bees, the greatest ignorance still exists as to what should be the temperature in the hive while the bees are at rest in winter. One bee-keeper, for example, says that the hive should be constructed in such a way as not to allow the temperature in its interior at any time to fall to the freezing-point or below. Another bee-master expresses his admiration at bees being able to withstand the cold when the temperature inside the hive is at the freezing-point or even lower, whilst a temperature of 52° Fahr. is sufficient to chill or benumb them outside the hive. Both appear to be of the erroneous opinion that all the parts of a bee-hive are heated by bees in a similar way as a room is heated by a stove.

When a colony is dispersed over the whole of the interior, the temperature no doubt is pretty well equalized; but when the temperature is falling and the bees crowd together to form a thick, round cluster, they impart just as little heat to the empty or unoccupied space of their hive as a person wrapped up in his bed warms the room, because in both cases the radiation of heat from the warm body is so insignificant as to be altogether incapable of restoring the external loss of heat. After the thermometer had shown 13° Fahr. of frost for some days, I found that, however well the hives were constructed to retain the heat, not only was the inner surface of the doors and sides of the hives covered with hoar frost, but the combs also; whilst the bees, even at the edge of the cluster, enjoyed a temperature of at least 54°, as otherwise they would have passed into a state of torpor and died.

Bees, in whose economy the most profound wisdom is manifest in order to preserve their strength and to save honey, do not, of course, maintain a higher degree of temperature than is absolutely necessary for their existence, but a much higher degree of temperature, whether natural or artificial, does not affect their well-being, as is shown by their thriving in Brazil, where they enjoy during the time of repose, a temperature not of 54°, but of 100° and above. Just as with us, so rest in the bee-hive is entirely dependent of the height of the mercury. Their rest is conditional. It makes no difference whether the cessation of vegetation be caused by severe cold or excessive heat.

The view, therefore, which Pastor Schonfeld defended at the time when the dispute was going on as to whether bees should be kept warm or cool in winter, and according to which view a certain degree of cold is necessary in order that bees may be kept in undisturbed repose and survive the winter in good condition, is altogether fallacious. It is their instinct, a custom which has become a second nature to them, because there are no flowers to be deprived of their honey or to be fertilized, which keeps the bees from making fruitless excursions, occasional flights to cleanse themselves always excepted, and induces them to keep perfectly quiet even during the most inviting days in autumn and winter. In 1833-34 there was really no winter at all. On the coldest day, Jan. 6, the mercury stood at 13½° Fahr. below the freezing-point. The hazel flowered in January, and the gooseberry in February. Winter, as it were, was succeeded by spring, and the bees wintered admirably. Last year the winter was likewise tolerably endurable, and consequently the bees wintered satisfactorily. I wonder whether a bee-keeper ever complained of a winter being too mild, and wished for colder weather for the sake of his bees. Every one who is concerned about his colonies wishes the frost a thousand miles away.

Convention Notices.

☞ The 4th semi-annual meeting of the Wabash County Bee-Keepers' Association will be held at North Manchester, Ind., on Oct. 10, 1885, in the G. A. R. Hall, Union Block. First session at 10 a. m. All bee-keepers are cordially invited to be present.

J. J. MARTIN, *Sec.*

☞ The Western Bee-Keepers' Association will hold its fourth annual meeting in Independence, Mo., on Thursday and Friday, Oct. 10 and 11, 1885. The Association will endeavor to make this the most interesting meeting yet held, and will spare no pains within its means to make it valuable to all. Several of our most prominent bee-keepers have signified their intention to be present.

C. M. CRANDALL, *Sec.*

Local Convention Directory.

1885. *Time and place of Meeting.*

Sept. 23, 24.—Kentucky State at Covington, Ky.
J. T. Counley, Sec., Napoleon, Ky.

Oct. 1.—Southern Illinois, at Duquoin. Ills.
F. H. Kennedy, Sec., Duquoin, Ills.

Oct. 2.—Union, at Dexter, Iowa.
M. E. Darby. Sec., Dexter, Iowa.

Oct. 10.—Wabash County, at N. Manchester, Ind.
J. J. Martin, Sec., N. Manchester, Ind.

Oct. 10, 11.—Western, at Independence, Mo.
C. M. Crandall, Sec., Independence. Mo.

Oct. 15.—Progressive, at Macomb, Ills.
J. G. Norton, Sec., Macomb, Ills.

Nov. 5, 6.—N. J. & Eastern, at Trenton, N. J.
Wm. B. Treadwell, Sec., 16 Thomas St., N. Y.

Dec. 8—10.—Michigan State, at Detroit, Mich.
H. D. Cutting, Sec., Clinton, Mich.

Dec. 8—10.—North American, at Detroit, Mich.
W. Z. Hutchinson, Sec., Rogersville, Mich.

Dec. 8-10.—Northwestern, at Detroit, Mich.
W. Z. Hutchinson, Sec., Rogersville, Mich.

☞ In order to have this table complete, Secretaries are requested to forward full particulars of time and place of future meetings.—Ed.

SELECTIONS FROM OUR LETTER BOX

Buckwheat Honey-Crop a failure.—G. C. Greiner, Naples,-oN. Y., on Sept. 2, 1885, says:

The past two weeks have decided the buckwheat honey-crop of this season to be a failure. It has been rainy most of the time, with cold, north winds prevailing. It was the time buckwheat passed its most honey-producing period, and bees had hardly a chance to fly in this time. As we have no later honey source of any consequence, the honey-season is ended for this year; the result is expressed in the following sentence: A full basswood crop, but very little dark honey. The season's experience has strengthened the belief, which I expressed a few years ago in the Bee Journal, that if all our three honey-sources—white clover, basswood and buckwheat—should yield full crops in one season, the product of a single colony would undoubtedly reach a thousand pounds.

Cold Weather, the Season, etc.—W. C. Nutt, Newton,⊙ Iowa, on Aug. 29, 1885, writes:

Last fall I put my bees into winter quarters from Nov. 20 to a few days before Christmas, and of the 25 colonies put into the cellar just before Christmas, almost all were lost, and the combs were very moldy. The cellar was dry, with the temperature from 35° to 45° above zero. I found that about 90 colonies were alive upon taking them out of the cellar about April 1. I moved them as I got time, about 18 miles. I do not know that moving hurt them any, but some of them were quite weak in bees, and the season being cold and backward, they became reduced to about 55 colonies, with which to begin the season about June 1. The season was fair up to about July 15, when a cold wave from the North stopped the secretion of nectar right in the midst of a heavy basswood bloom. There is plenty of forage now, and there has been for about 3 weeks, but the weather is too cold. I will get no fall honey if it does not turn warmer. I have taken about 1,800 pounds of extracted honey, and there is perhaps 1,000 pounds more on the hives, but it perhaps will have to be used for winter stores if the weather does not get better. I increased my apiary to 87 colonies. I will unite some of them. I am selling extracted honey at 12 cents per pound. I would like to see bee-men looking more to their interest. All should enroll their names in the "Union."

Poisonous Wild Honey.—W. G. Fish, Ithaca,⊙ N. Y., writes as follows:

The following item, from the New York *Times* needs some explanations:

> "Mrs. J. Dukes, of Branchville, S. C., gave a negro servant some wild honey on which her four sons dined. Almost as soon as they had eaten it they complained of blindness and dizziness. In ten minutes one was dead, and within half an hour two more had died. By this time the report of the affair had reached Mrs. Dukes. Her entire family were just experiencing the first symptoms of the trouble from which the negroes had died. Dr. Ott was sent for, and by applying antidotes the family was saved, after great suffering. Examination of the honey showed that it was impregnated with gelsemium, from yellow jessamine, which has been the cause of many deaths heretofore of persons eating wild honey."

Do bees gather honey that is poisonous? or is this honey not poisonous to bees, but will poison persons? The article states that the honey was gathered by wild bees. Do not domesticated bees gather honey from the same blossoms? If so, is it not dangerous to keep bees in localities where poisonous honey-plants grow?

[Yes; domesticated bees will sometimes, when hard pressed for pasturage, gather honey which, if eaten, is poisonous to human beings. History tells us that Xenophon's army of 10,000, when near Trebizond, obtained some poisonous honey, and were attacked with vomiting and purging, and the ground was covered with their bodies, like a field after a battle. They were unconscious for 24 hours, but then recovered. Mountain laurel, and its allies, are the usual sources from which poisonous honey is gathered. Where these laurels are found, bees should not be kept.—Ed.]

Feeding Bees for Winter.—Henry Alley, Wenham,♂ Mass., on Sept. 7, 1885, writes:

Bees have gathered no honey here since July 10, though we have four acres of buckwheat in the same field that our bees are kept. We must feed in order to carry the bees through the winter. I shall commence feeding today, using for a feeder a two-quart Mason fruit-jar, removing the glass cap and putting in its place a tin one with about 20 small holes made in it; the food will be granulated sugar syrup, and when the sugar is thoroughly dissolved, I will fill the jar and turn it bottom upwards over a 1½-inch hole in the honey-board, and the bees, if a strong colony, will remove it in about twelve hours. I will feed about 20 pounds to each colony. I do not believe in late feeding, for bees that are fed late will die before spring, unless the winter is very favorable.

Gathering Honey Fast.—F. H. Kennedy, Duquoin,♀ Ills., on Sept. 9, 1885, says:

There are only a very few in this locality who take an interest in bee-keeping. This season had been a very bad one until the rain we had on Aug. 22. The bees are gathering honey fast now.

Cellars for Bees.—Franklin P. Stiles, Haverhill,♂ Mass., on Sept. 9, 1885, writes:

My cellar, which is very large and quite wet, contains a furnace which is usually run from the last of October to the first of May. As I am thinking of testing this cellar for wintering bees, I would like to have, through the Bee Journal, the suggestions of any one having experience in that direction.

Convention Notices.

☞ The Southern Illinois Bee-Keepers' Association will hold a meeting in Duquoin, Ills., on Thursday, Oct. 1, 1885, at 10 a. m. All are invited. F. H. Kennedy, *Sec.*

☞ The Union Bee-Keepers' Association of Western Iowa will meet on Friday, Oct. 2, 1885, at Dexter, Iowa. All bee-keepers are cordially invited to be present.
M. E. Darby, *Sec.*

☞ The Kentucky State Bee-Keepers' Society will meet in Walker Hall, at Covington, Ky., on Sept. 23 and 24, 1885. The Reverend L. L. Langstroth is expected to be present, and all bee-keepers are invited to attend.
J. T. Connley, *Sec.*

☞ The Progressive Bee-Keepers' Association, of Western Illinois, will meet at Macomb, Ills., on Thursday, Oct. 15, 1885. Let everybody come and have an enjoyable time. Good speakers are expected.
J. G. Norton, *Sec.*

☞ The New Jersey and Eastern Bee-Keepers' Association having accepted an invitation to meet with the Mercer County Board of Agriculture, of Trenton, N. J., will hold their semi-annual convention in the Grand Jury Room of the Court House at Trenton, N. J., on Thursday and Friday, Nov. 5 and 6, 1885, at 10 a. m. A full attendance of the members is requested. To all persons interested in our vocation, we extend a cordial welcome. The committee of arrangements have secured hotel accommodations at reduced rates.
Wm. B. Treadwell, *Sec.*

☞ All who intend to be systematic in their work in the apiary, should get a copy of the Apiary Register and commence to use it. The prices are as follows:

For 50 colonies (120 pages)	$1 00
" 100 colonies (220 pages)	1 25
" 200 colonies (420 pages)	1 50

The larger ones can be used for a few colonies, give room for an increase of numbers, and still keep the record all together in one book, and are therefore the most desirable

WEEKLY EDITION
OF THE
AMERICAN
ESTABLISHED IN 1861
OLDEST BEE PAPER IN AMERICA
BEE JOURNAL
PUBLISHED BY
THOMAS G. NEWMAN & SON,
PROPRIETORS,
923 & 925 WEST MADISON ST., CHICAGO, ILL.
Weekly, **$2** a year ; Monthly, **50** cents.

ALFRED H. NEWMAN,
BUSINESS MANAGER.

Special Notices.

SPECIAL NOTICE.—On January 1,1886, the price of the Weekly BEE JOURNAL will be reduced to *One Dollar a Year*. This we have contemplated for some years, and only awaited the proper time to warrant us in issuing the Weekly BEE JOURNAL at the very low price of *one dollar* a year. That time has now come. We shall continue to improve the BEE JOURNAL, and it will maintain its proud position as the leading bee-paper of the World !

New subscribers will be supplied with the Weekly from now until the end of the year 1886, for **$1.25.**

Those who have already subscribed for any portion of *next year* will have the time beyond January 1st doubled. These changes in the mail-list type will be made by Oct. 1.

* * *

To Correspondents. — It would save us much trouble, if all would be particular to give their P. O. address and name, when writing to this office. We have several letters (some inclosing money) that have no name; many others having no Post-Office, County or State. Also, if you live near one post-office and get your mail at another, be sure to give the address we have on our list.

* * *

☞ If your wrapper-label reads Sept. 85, please remember that your subscription runs out with this month. Renew at once.

* * *

Bees and Poultry.—But few out-door pursuits go so well together as bees and poultry. Give the poultry the necessary attention in the morning and evening, and give the bees such of the time between as becomes necessary. We have made arrangements by which we can supply the American Poultry Journal (price $1.25) and the Weekly BEE JOURNAL both for **$1,75** a year. This is a rare opportunity to get two standard papers for about the price of one.

* * *

To give away a copy of "Honey as Food and Medicine" to every one who buys a package of honey, will sell almost any quantity of it.

Honey and Beeswax Market.

Office of the AMERICAN BEE JOURNAL,
Monday, 10 a. m., Sept. 14, 1885.

The following are the latest quotations for honey and beeswax received up to this hour :

CHICAGO.

HONEY—Receipts of comb honey are coming more freely, and the demand is about equal to it. Yet 15c per pound is all that can be obtained. Extracted honey ranges from 5@8c for the different grades and styles of packages.

BEESWAX—22@23c.

R. A. BURNETT, 161 South Water St.

BOSTON.

HONEY.—There is no change in the market, to speak of. We have had some new Vermont white clover honey in 1-lb. sections, which is very fine. There is a large crop in that State. Prices remain as follows : For 1-lb. sections, 16@18c. ; for 2-lbs., 14@16c. There is little or no sale for extracted.

BEESWAX.—30 cts. per lb.

BLAKE & RIPLEY, 57 Chatham Street.

NEW YORK.

HONEY.— There is not much change in the market. The new crop is coming in quite freely, and is selling readily at the following prices: Fancy white clover, in 1-lb. sections, 14@15 cents ; the same in 2-lb. sections, 12@13c ; fair to good, in 1 and 2 lb. sections, 10@11c.; fancy buckwheat, in 1-lb. sections, 11@12c.; the same in 2-lb. sections, 9@10c. Extracted, white clover, 6@7c.; buckwheat, 5@6c.

BEESWAX—Prime yellow, 25@28c.

McCAUL & HILDRETH BROS., 34 Hudson St.

CINCINNATI.

HONEY.—No change has taken place in the general feature of the market. Demand is slow for extracted honey with an abundance on the market. Depression in other branches of business, and low prices have their bearing upon honey. Better prices will, in my estimation, not be obtained until a general revival of business takes place ; our most ardent desires to the contrary notwithstanding. Custom has to be made, even at the short crop of this season. Small lots only of new comb honey make their appearance, and are sold readily. Yet demand is slow in proportion. Extracted honey brings 4@8c on arrival, and choice comb honey 15@16c in a jobbing way.

BEESWAX—Is in fair demand, and arrivals are good. We pay 20@24c for good yellow.

P. S. The following explanation in regard to markets seems to be in order to post some bee-keepers and save them from disappointments. When quoting prices "on arrival," I mean to say that honey will bring *about* the price quoted, or that a figure within the range given, will appear reasonable or acceptable to a purchaser. I quote as nearly as possible the price at which I am buying and selling. I do *not* mean to say that purchasers are waiting for the arrival of honey and are anxious to buy at those prices quoted, nor that I am willing to pay those prices on arrival for all the honey that may be shipped here. This latter would require a larger capital than I and two more of the largest dealers in America possess. It is unpleasant for us to be over-run with honey for which I will not pay on arrival, unless agreement has been made previous to shipment.

C. F. MUTH, Freeman & Central Ave.

SAN FRANCISCO.

HONEY.—Arrivals are quite light, with a probability of so continuing through the balance of the season. There is some inquiry for best qualities, with a firm market for the same. Quotations are as follows : White to extra white comb, 9@11c.; dark to good, 5@8c. Extracted, white liquid, 5@5½ cts.; light amber colored, 4½@5c.; amber and candied, 4½c.

BEESWAX.—Quotable at 23@25c., wholesale.

O. B. SMITH & Co., 423 Front Street.

CLEVELAND.

HONEY.—The new crop is beginning to arrive and is selling at 14@15 cts. per lb. for choice 1-lb. sections. Old honey is very dull—none selling although freely offered at 10@12 cts. Extracted, as usual is not in demand in our market.

BEESWAX.—20@22 cts. per lb.

A. C. KENDEL, 115 Ontario Street.

KANSAS CITY.

HONEY.—Considerable new honey is coming in and is readily taken at the following prices : 14@15 cents for choice 1-lb. sections ; 12@13c. for choice 2-lbs. ; 10½@11c. for choice California 2-lbs. ; and 8@9c. for off lots. Extracted is moving freely at 4@6c. for Miss., La., and Tex. honey ; 5@6c. for good buckwheat and other similar kinds ; 6@7c. for choice white clover and basswood, and for choice California white sage.

BEESWAX. Slow at 20@25.

CLEMONS, CLOON & Co., cor. 4th & Walnut.

* * *

☞ We want one number each of the BEE JOURNAL of August, 1866—February, 1867.

☞ To create Honey Markets in every village, town and city, wide-awake honey producers should get the Leaflets "Why Eat Honey" (only 50 cents per 100), or else the pamphlets on "Honey as Food and Medicine," and scatter them plentifully, and the result will be a DEMAND for all of their crops at remunerative prices. "Honey as Food and Medicine" are sold at the following prices :

Single copy, 5 cts. ; per doz., **40** cts. ; per hundred, **$2.50.** Five hundred will be sent postpaid for **$10.00;** or **1,000** for **$15,00.** On orders of **100** or more, we will print, if desired, on the cover-page, "Presented by," etc. (giving the name and address of the bee-keeper who scatters them).

* * *

Preserve your papers for reference. If you have no **BINDER** we will mail you one for 75 cents, or you can have one FREE if you will send us 3 new yearly subscriptions for the BEE JOURNAL.

* * *

☞ Our rates for two or more copies of the book, "Bees and Honey," may be found on the Book List on the second page of this paper. Also wholesale rates on all books where they are purchased "to sell again."

* * *

The National Bee-Keepers' Union.

MEMBERS RECEIVED SINCE LAST ISSUE.

Aspinwall, Jno.,
Brown, A. J.,
Camp, G. W.,
Chapman, B.,
Clickinger, Earlle,
Decker, C. K.,
Enke, Wm.,
Falsoner, J.,
Hart, F. M.,
Hobler, Geo.,
Jackson, Andrew,
Killough, J. M.,
Muth, C. F.,
Osburn, A. W.,
Perkins, Nelson,
Smith, Mrs. Martha,
Treadwell, W. B.,
Twining, M. J.,
Wurth, Dan.,

Advertisements.

HONEY

WE are now in the market, and will be during the entire season, for all honey offered us, in any quantity, shape, or condition—just so it is pure. We will sell on commission, charging 5 per cent.; or, if a sample is sent us, we will make the best cash offer the general market will afford. We will handle beeswax the same way, and can furnish bee-men in quantities, crude or refined, at lowest market prices Mr. Jerome Twichell, our junior member in this department, has full charge, which insures prompt and careful attention in all its details.

Sample of comb honey must be a full case, representing a fair average of the lot. On such sample we will make prompt returns, whether we buy or not.

CLEMONS, CLOON & CO.,
36A17t KANSAS CITY, MO.

W. Z. HUTCHINSON,
Rogersville, Genesee Co., Mich.,

CAN still furnish Italian queens, bred from the best of mothers, and reared in full colonies. Single queen, $1.00 ; six for $5.00; twelve, or more, 75 cts. each. Tested queens $2.00 each. Make money orders payable at Flint. 37Atf

Bee-Keepers' Badges at Fairs.

We have some **ELEGANT RIBBON BADGES,** having a rosette and gold Bee, for bee-keepers' use at Fairs, Conventions, etc. Price 50 cents each, by mail, postpaid.

THOMAS G. NEWMAN & SON,
923 & 925 West Madison St., CHICAGO, ILL

LOS ANGELES.

HOMES IN SOUTHERN CALIFORNIA.

"Stern winter smiles on that auspicious clime,
The fields are florid with unfading prime;
From the bleak pole no winds inclement blow,
Mould the round hail or flake the fleecy snow;
But from the breezy deep the bless'd inhale,
The fragrant murmurs of the western gale."
—Homer.

FULL information concerning the garden spot of the world, beautiful LOS ANGELES, THE LIVELIEST AND MOST PROSPEROUS SECTION OF THE PACIFIC COAST, furnished by the Los Angeles **Weekly Mirror** a mammoth 72 column PAPER, the best weekly in California. SEND FOR IT. Single copy, three two-cent stamps; six months, **$1**; one year, **$2**.

Address THE TIMES-MIRROR CO.,
25A13t Los Angeles, Calif.

QUEENS

AT REDUCED PRICES.

OWING to the scarcity of money, I will SELL **Warranted Queens at $8.00 per dozen. Two dozen for $15.00.**

30ABtf **J. T. WILSON**, Nicholasville, Ky.

BEES for SALE

MRS. J. N. HEATER,
35A3t **COLUMBUS, NEBR.**

$200,000 *in presents given away.* Send us 5 cents postage, and by mail you will get *free* a package of goods of large value, that will start you in work that will at once bring you in money faster than anything else in America. All about the $200,000 in presents with each box. Agents wanted everywhere, of either sex, of all ages, for all the time, or spare time only, to work for us at their own homes. Fortunes for all workers absolutely assured. Don't delay. H. HALLETT & CO.
51A1y Portland, Maine.

Muth's Honey Extractor,

Square Glass Honey Jars, Tin Buckets,
Langstroth Bee-Hives, Honey-Sections, etc.

Apply to **CHAS. F. MUTH,**
Freeman & Central Ave., - CINCINNATI, O.

☞Send 10c. for Practical Hints to Bee-Keepers.

60 New Style, Embossed Hidden Name and Chromo Visiting Cards, no 2 alike, name on, 10c., 13 packs $1; warranted best sold. Sample book, 4c. L. JONES & CO., Nassau, N. Y.
11A1y

NEW ONE-POUND HONEY PAIL.

THIS **new size** of our Tapering Honey Pails is of uniform design with the other sizes, having the top edge turned over, and has a bail or handle,—making it very convenient to carry. It is well-made and, when filled with honey, makes a novel and attractive small package, that can be sold for 20 cents or less. Many consumers will buy it in order to give the children a handsome toy pail. **PRICE, 75 cents per dozen, or $5.00 per 100.**

THOS. G. NEWMAN & SON,
923 & 925 West Madison St., CHICAGO, ILL.

Fruit-Farm & Apiary

FOR SALE CHEAP!

96 ACRES, hill-land, ⅓ well-stocked with apples, peaches, pears, plums, quinces, grapes, and small fruit, in fine bearing condition. The remainder in pasture, grass, grain, etc. Apiary contains **140 ITALIAN COLONIES** in Langstroth hives. Bee-house and all modern appliances for apiculture, in as good location for bees and honey as can be found. Good 10-room house, beautifully located, commanding a view of the city, river and surrounding country. New barn and out-buildings, cistern, never-failing springs, etc. Reason for selling—age and ill-health.

33A6t **S. A. STILLMAN, LOUISIANA, MO.**

Bee-Hives, Sections & Honey-Boxes

GREAT REDUCTION.

DEALERS and large consumers will find it to their interest to write us for special stocking-up prices—either for present or future delivery.

G. B. LEWIS & CO.,
34ABtf WATERTOWN, WIS.

FOLDING PAPER-BOXES.

Bee-keepers who desire to put their honey on the market in the most attractive manner, should use the **Folding Paper Box.** Read what the Editor of this paper says concerning this box, on page 531. Sample box, by mail, 5 cts. Send for circular and prices.

GEO. T. HAMMOND,
35Atf BROCKPORT, Monroe Co., N. Y.

THE INVERTIBLE HIVE!

INVERTIBLE FRAMES,

Invertible Surplus Honey Cases,
Entrance Feeders, Top and Bottom Feeders,
Hive-Lifting Device, Honey Extractors,
Wax Extractors, Comb Foundation, etc.

☞ My new Illustrated Catalogue is now ready, and will be mailed to all who may apply for it. Address,

J. M. SHUCK,
DES MOINES, IOWA.
10A1y

A PRIZE. Send six cents for postage, and receive free, a costly box of goods which will help you to more money right away than anything else in this world. All, of either sex, succeed from first hour. The broad road to fortune opens before the workers, absolutely sure. At once address TRUE & Co., Augusta, Maine.
51A1y

Bee-keepers' Supplies,

Standard Langstroth,
Quinby Standing-Frame,
And all other kinds of **Hives,**
MADE TO ORDER,
Quinby Smoker a specialty.

I shall supply anything you need in the Apiary. Send for Illustrated Price List.

W. E. CLARK, successor to L. C. Root,
7A1y ORISKANY, Oneida County, N. Y.

Dadant's Foundation Factory, wholesale and retail. See Advertisement in another column.

Bees and Queens

HAVING purchased all the black bees within a radius of 6 miles, I now claim the LARGEST ITALIAN APIARY and best location for rearing **FINE QUEENS** in the State. I will continue to sell warranted Queens at the low price of **75** cents each. Extra selected tested (1885 rearing) **$1.50** each. Three L-frame Nuclei, every frame filled with brood, with selected tested Queen, **$3** each.

Address JAS. WOOD, North Prescott, Mass.
29A9t

Wooden Pails for Honey!

WE can furnish regular Wooden Water-Pails—well painted on the outside, and with 3 iron hoops and a tight-fitting wood cover, at **$2.25** per dozen. They will hold **25** lbs. of honey, and when empty, can be utilized for use as an ordinary household pail.

THOS. G. NEWMAN & SON,
923 & 925 West Madison Street, CHICAGO, ILL.

WIN more money than at anything else by taking an agency for the best selling book out. Beginners succeed grandly. None fail. Terms free. HALLETT BOOK CO.
51A1y Portland, Maine.

"PRIZE QUEENS!"

ITALIAN QUEENS, tested, warranted, and fertilized, for sale at usual prices. Also Nuclei colonies, 2 frames each. Send for Circular. Dollar Queens ready to ship on one week's notice.

27D6t **E. L. BRIGGS**, Wilton Junction, Iowa.

Dadant's Foundation Factory, wholesale and retail. See Advertisement in another column

BEESWAX.

We pay **20c.** per lb., delivered here, for yellow Beeswax. To avoid mistakes, the shipper's name should always be on each package.

THOS. G. NEWMAN & SON,
923 & 925 West Madison Street, CHICAGO, ILL.

1885. GET THE BEST. 1885.

THE LATEST EDITION OF

THE BEE-KEEPERS' HANDY-BOOK

Contains 300 pages and 100 illustrations. One hundred pages are devoted to queen-rearing, and as the Handy-Book is copy-righted our methods for rearing first-class queens cannot be found in any other publication. The Handy-Book also contains fine likenesses of Rev. L. L. Langstroth and the late Mr. Moses Quinby—the two most noted apiarists of the age. The book and tested Italian or Syrian queen, by mail, $2.00.

36Atf **HENRY ALLEY, Wenham, Mass.**

Vandervort Foundation Mill.

6 Inch, Price, $25.00.

It makes the finest extra thin Foundation for comb honey. For Sale by

THOS. G. NEWMAN & SON,
923 & 925 West Madison Street, CHICAGO, ILL.

HELP for working people. Send 10 cents postage, and we will mail you *free*, a royal, valuable sample box of goods that will put you in the way of making more money in a few days than you ever thought possible at any business. Capital not required. You can live at home and work in spare time only, or all the time. All of both sexes, of all ages, grandly successful. 50 cents to $5 easily earned every evening. That all who want work may test the business, we make this unparalleled offer: To all who are not well satisfied we will send $1 to pay for the trouble of writing us. Full particulars, directions, etc., sent free. Immense pay absolutely sure for all who start at once Don't delay. Address STINSON & CO.
51A1y Portland, Maine

THE BRITISH BEE JOURNAL

AND BEE-KEEPER'S ADVISER.

The BRITISH BEE JOURNAL is published SEMI-MONTHLY, at Seven Shillings per annum, and contains the best practical information for the time being, showing what to do, and when how to do it.

The British Bee Journal and our Weekly for $2.50.

ELECTROTYPES

Of Engravings used in the Bee Journal for sale at 25 cents per square inch—no single cut sold for less than 50c. **THOS. G. NEWMAN & SON,**
923 & 925 West Madison Street, Chicago, Ill.

WEEKLY EDITION
OF THE
AMERICAN
ESTABLISHED IN 1861
OLDEST BEE PAPER IN AMERICA
BEE JOURNAL

THOMAS G. NEWMAN,
EDITOR.

Vol. XXI. Sept. 23, 1885. No. 38.

APICULTURAL NEWS ITEMS.

EDITORIAL AND SELECTED.

The Convention at Independence, Mo., will be held on Oct. 15 and 16, instead of the date heretofore given. The Secretary made a mistake when "consulting the calendar."

Another Suit is commenced against the bees for damages said to be done by them to grapes. The Bee-Keepers' Union will help—but its limited number of members is very discouraging. But *few* realize the *danger !*

For $1.25 we will send the Weekly Bee Journal to *new subscribers* from now until the end of 1885—over 15 months. Now is the time to subscribe. The sooner it is done the more *new* subscribers will get for the money.

A party of gentlemen, while fishing in the waters of the Oconee, Georgia, one day during the past week, found a big tree in the form of a large cypress. After cutting it down, it was ascertained that the hollow near the top contained something like a hundred pounds of honey.

Before fretting long about what market to take your honey to, try the home market. Put your product up in an attractive shape, offer it at the neighboring stores for a reasonably paying price, and you will find customers enough, we'll warrant.—*Ex.*

Monthly subscribers will, no doubt, be delighted at the prospect of getting the Weekly for a dollar a year. Believing that they will prefer a Weekly at that price, we shall discontinue the Monthly edition at the end of the present year, and those who have paid for any portion of next year will have credit on the Weekly *pro rata* for all amounts due them on the Monthly.

Double up weak colonies for winter. Two of such when united will consume but little more honey than one would if wintered alone. Weak colonies will consume much more honey than strong ones, to endeavor to keep up the necessary heat. When doubled up the enlarged population supplies much of the necessary warmth. There is no economy in trying to winter weak colonies.

An Accident is reported by the *Advocate*, Piper City, Ills. It says :

> A calf belonging to J. C. More, turned over a hive of bees. The infuriated bees, after stinging people right and left, crossed the road and attacked in a body the gray mare of E. H. Brooks, used by him in running the horse-power at the creamery, and within a short time they had her down writhing in the agonies of death. She was blind, and instead of fleeing from her pursuers, she only ran round and round till the bees had finished their vindictive work.

The bees very naturally resented the turning over of their house ; but vigorous measures should have been instituted at once to prevent such a disaster. Smoke or water could have been used to great advantage—but perhaps the apiarist was an "old fogy," or absent.

The Phacelia presents a modest looking spike of flowers. Most of the varieties are blue, though there are some white, and all are hardy annuals. Still, we believe there is a species in California that lives for several years ere it dies. For a garden plant it possesses little to recommend it to a place among our other flowers. At different times it has been highly spoken of in the bee-periodicals as a plant for bee-pasturage, and from California, where several varieties grow in great profusion, we learn that it is of value to the bees, as it blooms in early spring. The engraving is from Vick's *Floral Guide*, Rochester, N. Y.

Honey is used in making gold ink. Here is a receipt given by the *Toledo Blade :*

> Genuine gold leaf is rubbed with honey on a plate of agate or ground glass by means of a flat pestle, until the whole presents a uniform mass, in which no distinct particles of gold can be recognized. This mass is carefully removed into a vessel with water, which will dissolve the honey and leave the gold in an extremely disintegrated state behind. The water has, according to the size of the vessel, to be removed twice or three times, when all the saccharine matter will have been washed away. The remaining gold is then mixed with a sufficient quantity of a solution of gum arabic, shaken well, and is ready for use. The writing is to be rubbed, after drying, with a flat piece of ivory, when it will present the lustre of pure gold. Silver ink is prepared in the same way, from silver leaf.

There has been a partial failure of honey (says Mrs. L. Harrison in the *Prairie Farmer*) in the North and West, this season. In some parts of Michigan and Wisconsin large quantities of honey were obtained from basswood, but in other parts no honey was gathered. White clover honey has been almost an entire failure, owing to cool weather, during its blooming. In this locality (Peoria Co., Ills.), during the month of August, there have been abundant showers, and vegetation is green and flourishing, but the weather has resembled October in coolness. Bees, in all localities heard from, have been able to make a living, and a little more, and are strong in numbers—hives are universally running over with bees. There has been honey enough to keep up brood-rearing all the time. Had there been a great flow of honey, the brood-nest would have been filled with honey to its exclusion.

Lamentable Ignorance, says Prof. Cook, caused Mr. Powers to sue Mr. Freeborn for trespass, because he avers that the bees are detrimental to his sheep. The Professor, in the *Philadelphia Press*, adds :

> Mr. P. notices that his sheep run from the clover to the fence corners. Who has not noticed the same thing in the summer when that dreaded enemy, the sheep bot-fly (*Estrus ovis*) attempts to attach its eggs to the nose of the sheep? Ignorant of the true cause, this Wisconsin shepherd blames the bees, and thus brings suit against Mr. F. for heavy damages.
>
> Perhaps no point in science is more fully proven than that bees are of great value in fertilizing such flowers as they visit for pollen and nectar. If Mr. Powers understood the case aright, he would feel very kindly towards Mr. F. and his bees, and would, instead of prosecuting, kill the fattest and plumpest lamb in the flock and send it as a just reward to Mr. Freeborn.

What a Woman can do, is illustrated by the following from a local paper in Sheboygan County, Wis. Mrs. Hills is a student of the Bee Journal, and one of the most progressive apiarists :

> Mrs. Henry Hills, at her genteel and cozy home on the hill, overlooking a considerable portion of the village, although much given to botanical and kindred studies, combines with her æsthetic occupations and housekeeping, a utilitarian pursuit which deserves more than passing notice. Just how she became on friendly terms with the "little busy bee," we are not advised, but she has evidently formed a pleasant and profitable compact with the little workers, both parties seeming to relish the arrangement. Mrs. Hills, with but slight aid from her husband (whose business demands his full time), has established and perfected an apiary that is a credit to her genius, taste and patience. She now has a steady demand for both extracted and comb honey, and the genteel packages used, as well as the quality of the contents, has much to do with the popularity of the goods. The extracted honey is placed for sale in neat, covered tin-pails, small and large, as needed ; and the comb honey is prepared by the bees in one-pound square frames, and these sections are placed by Mrs. H. in packages of heavy paper with tape-bail, the same as used by first-class confectioners for their candies. These latter packages are simply "too sweet for anything." We advise our readers with a "sweet tooth" to give Mrs. Hill's apiary a trial.

Dr. Talmadge lately preached a sermon from this text : "And they gave him a piece of a *honey-comb*."—Luke 24:42. The following are a few of his salient points :

> We are told, in the last chapter of Luke, that they brought a *honey-comb* to Jesus. He ate it. It must have been refreshing to Him after the abstinence of the grave.
>
> Jesus says in the Canticles to the Church : "Thy lips drop as with the *honey-comb*." Jesus will accept that which we bring to Him. There is as much *honey* now for Christ as there was in the time of the disciples.
>
> A glorious banquet has been spread. He tells you and me to go out and invite the people to come to it. Oh, that now we might bring the *honey-comb* of a grateful service !
>
> When they shall come from the East and from the West, from the North and from the South, a great multitude that no man can number, standing around about the throne, there will be a circle of martyrs and apostles, a circle of all the redeemed, a circle of the loved ones who have died in Jesus ! Oh, that will be the anthem of redeemed ! That will be the Sabbath of the ages, and the trees of the heavenly wood, like the forests of Ephraim, shall drop with *honey*, and Jesus, like Jonathan of old, may dip his sceptre into it.

Heavy Rains in England, last week, did great damage to outstanding crops.

QUERIES

WITH

REPLIES by Prominent Apiarists.

"Balling" Queens.

Query, No. 114.—1. I had a swarm issue from a first swarm, and in half an hour after being hived, the bees "balled" and killed their queen. Why did they do so?

2. I had two cases where two swarms issued, one after another, and settled together. In one case I laid a cloth down, and on each side of it I put a brood-chamber of a Langstroth hive. I shook the bees on the cloth, between the hives, letting them go into which ever hive they chose. Soon after they had occupied the two hives, I saw those in one of them "balling" a queen. I concluded that the two queens had gone into one hive, and took her out and put her into the other hive; but there she was "balled" again and killed. In all these hives the bees had destroyed the queen-cells before leaving. Why did the bees act so strangely?—A. Johnston.

The bees from one swarm may have "balled" the queen of the other swarm.—W. Z. Hutchinson.

I think they must have had more than one queen. I have known five queens to go out with a swarm. Possibly two swarms united, and so one queen was killed. A plurality of queens may also account for the second case.—Prof. A. J. Cook.

Bees do not act according to any custom or rule, but different circumstances cause them to act quite differently. Were all the facts known in each case, their actions would not appear strange.—Dr. G. L. Tinker.

It is very difficult to decide on such cases, but the cause in each instance is probably that there were some strange bees with the swarm. Sometimes two swarms unite without the apiarist's knowledge, and the bees of the one kill the queen of the other.—Dadant & Son.

1. Sometimes they seem to do this as a mere freak. 2. It would be nothing remarkable for a queen to be "balled" by bees of the other colony, and afterward, if freed, she might be "balled" even by her own bees. Both kinds of bees were of course in each hive.—Dr. C. C. Miller.

1. As a rule, queens are only "balled" under such circumstances when a few strange bees get in with the swarm. 2. The bees "balled" the queen for the cause given above, and the killing of her was owing to her being put into the hive which had the other queen. As to the destroying of the queen-cells before leaving, I should want farther knowledge of the subject to answer correctly.—G. M. Doolittle.

1. The swarm was caused by a desire on the part of the bees to supersede the old queen, and failing in this, they murdered her and went back home. I have seen something that looked like this on several occasions. 2. The bees were mixed in both hives, and both queens were likely to be "balled." I knew one case where two swarms were united, both having fertile queens, and both queens were killed. I never knew bees to destroy the cells and then swarm; though they sometimes swarm before cells are started.—G. W. Demaree.

1. No one can tell, without being on the spot, and making an examination (and ofttimes they cannot then) of the condition and surroundings, why our bees do these curious things. In the above no positive answer can be given. 2. The answer to No. 1 will apply here. It is easy to guess, but the conundrum is a hard one.—J. E. Pond, Jr.

1. Either strange bees mixed with the swarm and stung her, or she was very old or maimed, and the bees wished to get rid of her, or both. The latter is one prolific cause of swarms from swarms. 2. You say that in all these hives the bees destroyed the queen-cells before leaving. Likely, then, your swarms all contained young, unfecundated queens; such queens are not as tolerable as fecundated queens. Your swarms were thoroughly mixed. Either new hive contained bees from both old colonies. No matter whether both queens were in one hive or not, in any case every unfertile queen would be among strange bees, and "balling" and killing might be expected. There might have been several queens with each swarm. Your swarms were likely second-swarms, or first swarms with young queens.—James Heddon.

Age of Brood and Extracting Combs.

Query, No. 115.—For how many years are combs fit for use, for brood and for extracting? I have some that have been used for three or four years, yet the cells seem very small.—W. B. D.

I have combs in my apiary that have been in use for the past twelve years, and as far as I can see they are as good as new.—G. M. Doolittle.

I have heard of combs that have been in use for 40 years. In the 8 years that I have kept bees, I have not noticed that the cells in any of the combs have become smaller.—W. Z. Hutchinson.

I have good combs that have been in use for 15 years.—Prof. A. J. Cook.

Ordinarily they are good for 10 years or more.—Dadant & Son.

I do not know, yet I suppose I must have some not far from 20 years old, but I have never noticed that they were the worse for it. I do not see how they could ever be too old for extracting.—Dr. C. C. Miller.

I have used combs for extracting with good success for 10 years, and perhaps some for 15 years, that would contain brood some of the time. I do not know how old brood-combs must be to become worthless. I have some 7 or 8 years old that appear to be as good as ever.—James Heddon.

Combs used for extracting will last for ages, so far as I know. I have combs that have been in use in the brood-department for 12 or 15 years, and I can see no difference in the size of the bees, though the cells do look small. The impression is abroad that bees do not grow any after they cut out of the cells, but I think a little observation will satisfy anybody that the young bee "plumps out" considerably after it hatches. I have seen "wee bits" of bees that were unnaturally small, but the fault was not with the combs.—G. W. Demaree.

I have known one instance of a colony of bees living in a hive for 30 years without re-queening or other attention, and did well until the hard winter of 1880-81. The bees were as large as any, and the combs were still serviceable, but very black and heavy. I should say that nice, straight combs might be used for 20 years to advantage.—Dr. G. L. Tinker.

I cannot answer this question to a certainty, but I have combs now in use that were built in 1870, and I do not see but that they are as good now as ever. It is true that the brood-cells grow smaller each year, owing to the slight cocoon lining left by the emerging bees, but I have not found any bad results therefrom. I should use combs as long as they were in good condition—and no longer—without regard to age. Bees will winter better on old than on new combs.—J. E. Pond, Jr.

Using Combs Containing Pollen.

Query, No. 116.—Is it policy to give to bees to clean, combs that have much dry, hard pollen in them? I have noticed that they are obliged to tear the comb completely away and build new, thus causing much labor.—Hillsdale.

No; soak them in water and then extract.—Dr. G. L. Tinker.

If the bees are obliged to tear the comb down, it would be better to melt the combs into wax. Usually bees can remove the bee-bread without destroying the combs.—W. Z. Hutchinson.

I should prefer to melt up the combs and give the bees foundation to be drawn out into new combs.—Prof. A. J. Cook.

If such combs are soaked in tepid water until the pollen is soft, and after shaking out the water they are saturated with sweetened water, the bees will clean them.—G. W. Demaree.

They do, when the pollen is spoiled or soured; but if it is well preserved they do not destroy it.—Dadant & Son.

So far as my experience goes, it pays to let the bees clean the combs.—James Heddon.

Pollen only gets in this condition after getting moldy. I should not try to use it if many cells were filled with it.—G. M. Doolittle.

I have seen combs filled with pollen in such condition that the bees had to tear down the whole of the cell walls, leaving nothing but the septa.—Dr. C. C. Miller.

If the pollen is so hard that the bees cannot clear it out without destroying the combs, soak them a short time in warm water before using.—J. E. Pond, Jr.

CORRESPONDENCE.

Explanatory.—The figures BEFORE the names indicate the number of years that the person has kept bees. Those AFTER, show the number of colonies the writer had in the previous spring and fall, or fall and spring, as the time of the year may require.

This mark ⊙ indicates that the apiarist is located near the centre of the State named: ♁ north of the centre; ♀ south; O+ east; +O west; and this ♂ northeast; ⟜ northwest; ⊸ southeast; and ⚲ southwest of the centre of the State mentioned.

For the American Bee Journal.

The Ontario Convention.

BY OUR OWN CORRESPONDENT.

The annual meeting of the Ontario Bee-Beepers' Association assembled in the City Hall at Toronto, at 7:30 p. m. on Sept. 10, 1885. The President, Dr. J. C. Thom, of Streetsville, occupied the chair. After the reading of the minutes, the Secretary, Mr. Jacob Spence, read the annual report of the Executive Committee, which detailed efforts made to secure statistics of bee-keeping, referred to the severe losses of the past winter, and urged some scheme of affiliation by which local societies should be represented in this organization. Mr. Spence also read the Treasurer's report, which acknowledged a balance from last year of $2.83; membership subscriptions, $126—in all, $128.83; outlay, $116.45; amount on hand, $12.38. A scheme of affiliation was submitted which was received and laid on the table for consideration at a later stage of the meeting.

The President's address was the next order of business. It called attention to the great progress made of late years in the art of bee-keeping, and vividly described a first-class modern apiary. Referring to the severity of the weather during the past winter, the President said that with due preparation and precaution bees could be and had been carried through even such a season without much loss. He recommended as the result of his own experience, a sufficiency of honey, young queens, non-interference after the first of October, and placing the hives in a dry, frost-proof repository with a temperature of about 42° above zero, and free ventilation. He mentioned the recent discovery that the keeping-quality of honey depended upon a well-known constituent of bee-poison, viz: formic acid. The honey of stingless bees in South America contains no formic acid, and, therefore, will not keep; hence they only lay up enough for daily use. He advocated the establishment of an experimental bee-farm, in which races of bees from foreign countries could be thoroughly tested. "After having the Asiatic races inflicted upon us," he said, "we are now threatened with the Carniolan." He expressed the opinion that the Italian race should be cultivated as the best bee America has yet obtained. He advocated the formation of a union among Ontario bee-keepers, for the purpose of establishing a foreign market for the surplus honey-product. He mentioned the Colonial and Indian exhibition to be held at Kensington, England, next year, as affording an excellent opportunity for the display of Canadian honey.

A spirited discussion arose on the President's address. Rev. W. F. Clarke led off by remarking that the condemnation of foreign races of bees was far too sweeping. He thought, too, that it was geographically incorrect. He was under the impression that it was the Cyprians which the Doctor wished to condemn, and if so, it was European and not Asiatic bees that were referred to, for Cyprus was in Europe. Personally, he thought the introduction of Cyprians had been an injury. He had seen such a man as D. A. Jones, who boasted of his ability to handle all sorts of bees without veil and gloves, run into the bushes on opening a Cyprian hive, and smoke even from a Bingham "Conqueror" had no effect upon them. He was of the opinion that the Asiatic bees had been of great benefit, and that a dash of Syrian or Holy Land blood was a decided improvement to the best Italians. He was sorry the Doctor deprecated the introduction of the Carniolans. If correctly reported, they were gentler than the gentlest Italians, and equally good honey-gatherers. He had recently obtained a queen of this breed, and intended giving the Carniolans a fair trial, as he had done with every other race of bees that had come before the bee-keeping public.

Mr. J. B. Hall had never tried the Italians, Cyprians or Syrians, he was happy to say, as he knew of a better bee than any or all of them—what it was, or how it could be obtained, the speaker did not disclose, though queried closely. Only vague hints were all he would give as to that particular bee. He had tried the Carniolans; had about fifteen queens of this strain in his apiary. He could not yet speak of their honey-gathering qualities, but they were the quietest bees he had ever handled. You might kick the hive once, twice, three times; the first time they manifested a little surprise, but did not get excited or rush out; the second time they would not notice the kick so much, and the third time they had become used to it, and hardly noticed it.

On being called upon, Mr. D. A. Jones was rather reluctant to speak on the races of bees, lest it should seem like an attempt to injure a noted breeder of queens who was now at work in the East. He would tell, however, what he was doing in his own apiary, and people might form their own conclusions. He was weeding out all trace of the Cyprian race, and breeding from the best Italians with perhaps a third of Syrian or Palestine crossing. He found that the best "business bee" for this country. But he wished to say that for the Southern States, and further south—for Cuba and such regions—the Cyprians and Holy Lands were the best. He had tested the Carniolans, and thought very highly of them, so highly that he would recommend all who kept bees on a large scale, to have a dash of this strain. The great objection to them was that they were so like black bees that it was almost impossible to tell them apart. Even the queens were very like black queens, so that in breeding and selling them there was no test of purity.

Mr. J. B. Hall replied that there was as much difference between Carniolans and black bees as between white men and negroes—especially when they were "babies." An experienced bee-keeper would never confound them. Especially was this true of the queens which had dark, zebra-like stripes, and a species of down or fur totally unlike black bees. But he concurred with Mr. Jones in thinking them worthy of attention if only for their gentle and peaceable qualities.

Mr. Corneil was of the opinion that the Syrians had some very valuable qualities which we ought to secure in the bee of the future. He had already introduced four Syrio-Albino queens, and was so well pleased with them that he had sent for another lot.

On the subject of establishing a government bee-farm for experimenting with the various races of bees, Mr. Jones remarked that after a pretty extensive experience, he was of the opinion that the scheme was impracticable for various reasons. One was that the government would not put money enough into it to make it a success. Another reason was the extreme difficulty of finding an isolated locality, except somewhere unsuitable for bees to live. On the Georgian Bay islands this year it had been so cold that his queen-breeding operations there had proved impracticable altogether.

The recommendation of the President in regard to the exhibition of Canadian honey at the Kensington (England) Show next year was discussed at some length, and a resolution passed appointing a committee to wait upon the Ontario Government to secure their co-operation, and endeavor to make a creditable showing of Canadian honey on that occasion.

A temporary committee on order of business was appointed, comprising Messrs. Corneil, Clarke, Spence, Campbell and Morison.

A vote of thanks was passed to Pres. Thom for his able and appropriate address, which was referred to the committee on order of business to bring up the remaining topics from the address for future discussion.

A question drawer was established, and, as a little time yet remained, the first question handed in was taken up, viz: "Is there any advantage in reversible frames?"

Mr. Corneil had been using what was really a reversible frame, for years. It was the Quinby frame, and sometimes in transferring he had found it advantageous to turn the frame bottom side up. Mr. Clarke remarked that the Quinby frame had neither bottom nor top. Mr. Hall saw no use in a reversible frame. What he wanted was a *reversible bee*, and that he had; a bee that would build comb and store honey whenever there was a chance, whether at the top or the bottom of the frame.

W. F. Clarke remarked that in the early days of Methodism, a preacher took for his text, "The men that have turned the world upside down have come hither also." His heads of discourse were: I. The world is wrong side up; II. It needs turning upside down; and III. We are the people to do it. For his part, he should not turn his frames upside down until he had some evidence that they were wrong side up. He still believed that for some wise purpose there was an upward inclination of the outer edge of the cell—it was "tip-tilted," as Tennyson politely said of the lady's pug nose. Nature had some reason for this, and he went against all unnecessary interference with nature. The strongest arguments he had heard for reversing frames was that the bees sometimes failed to continue comb building to the bottom of the frame, but this could be cured without reversing. Mr. Hall had some of the most perfect frames of comb he had ever seen at the exhibition ground, and would show them to any one who wished, at the same time explaining how they were built. A leading supply dealer had told him (Mr. Clarke) to-day, that no bee-keeper was up with the times who did not use reversible frames. Well, he first wanted to know if the times were right before he cared about being up with them.

A member asked if Mr. Hall could not explain to the convention how he got his combs built out to the bottom. Mr. Hall replied, "Cheerfully:" if he had a donkey that wouldn't go without whipping him, of course he would whip him, but if he did not need whipping, "dy'e think I'd wallup him? O! no! no!" The bees will build combs right down if the comb foundation is heavy enough, and brought within half an inch of the bottom-bar. People said that was costly. Well, if he was only going to use comb one year it would not pay to use foundation, but he calculated his combs to last a life-time, and so was willing to be at some cost and trouble to get them good. He used foundation only four feet to the pound. He was obliged to make his own comb foundation because he could not get a manufacturer to make it heavy enough for him, and this was all the secret of obtaining such combs as he had at the exhibition which had been in use for several years, and were only average specimens of what his bees built.

A second question was taken out of the drawer, viz: "Is chilled brood the same as foul brood? If not, will chilled brood produce foul brood?" Both questions were unanimously answered in the negative in the discussion that followed.

A piece of comb was exhibited, and the question asked whether it was a case of foul brood. The answer was deferred so that the comb might be examined by daylight.

The Association then adjourned till the next day, an informal meeting being appointed on the Fair Ground, at 2 p. m., and the second regular meeting at 7:30 p. m. in the City Hall.

SECOND DAY.

The informal meeting held on the exhibition grounds was truly informal, no organization being attempted. There were animated discussions by groups of enthusiastic bee-keepers who gathered around the several objects displayed in which they felt special interest. Here was a knot encircling a portable bee-house, accommodating four hives, and arranged for summering and wintering, sides and roof to be taken off during the working season, and being put together for chaff packing on the approach of cold weather. Extractors, bee-feeders, bee-tents, reversible frames, Carniolan bees, and, as the auctioneer's are wont to say, "other articles too numerous to mention" attracted the attention of bee-men experienced and inexperienced—especially the latter. Apiarian veterans drew off aside to discuss bee-literature, the pollen and other wintering theories, election of officers, and the general interests of bee-keeping. The meeting, though like the primeval earth, "without form," was by no means "void," and it may be questioned whether any duly organized meeting of the Association was more useful and profitable than this "go-as-you-please" assembly. Novices came into close contact with the older heads, and those uninterested in supplies, ventilated the graver questions now before the bee-world, to their hearts' content.

President Thom occupied the chair at the evening meeting, which, after the transaction of a little routine business, was wholly devoted to the all-important subject of wintering. The early part of the meeting was a glum affair, being taken up by several members with a melancholy detail of "the losses of bees that they had known," during the past severe winter, all of whom wound up with the stereotyped "I want to know, you know," how to do it without fail next time. Then came the more cheerful experiences of those who by various methods had wintered their bees with a fair measure of success. Cellars, clamps, bee-houses, chaff hives and straw-packing had each their advocates, but nothing new was elicited. It was found, however, that those who had prepared their bees for winter early, and used proper care, had done comparatively well. One or two members were enthusiastic about cork dust packing, while another affirmed that it drew moisture, and congealed into a solid mass. W. F. Clarke expounded at some length his theory of hibernation, and as it was the first time he had found an opportunity of going into it fully before a Canadian audience, much interest was awakened, and many questions asked.

Mr. D. A. Jones detailed the methods of others in the use of which they had been more or less successful, but did not particularize in regard to his own, because he had so often described it that all knew what it was. He would not advise those who kept only a few colonies of bees to build costly double-walled bee-houses, like his own, but thought they should use some form of chaff or sawdust packing on the summer stands. He was not prepared to say that bees hibernate, but he felt sure that the quieter they were kept the better. Whatever method was adopted, he would strongly urge upon bee-keepers to make their winter preparations early. Bees ought not to be disturbed in the brood-nest later than the first or beginning of October. He spoke of wintering under snow, and said that bees buried under four or five feet of "the beautiful" always did well. It was a porous protection allowing air, but not admitting cold, or allowing the escape of heat.

Mr. Clarke's plan of providing a riddance of dead bees by means of a hopper under the hive, met with considerable favor, several testifying to the loss of fine colonies resulting from putrid heaps of dead bees, causing the whole colony to become diseased with plenty of stores in the hive.

Mr. Corneil described a new packing in the shape of "mineral wool," of which he had a specimen, and which he said was the best non-conducting material known. It could be had in New York for $3.50 per hundred weight, and an inch in thickness was ample packing. This would make the cost 50 or 60 cents per hive.

Several cases of supposed hibernation were given, in which the bees became so torpid that it took sometime to arouse them. A member mentioned the surprised experience of a lady who had 2 colonies, both wintered alike, one of which upon being put out in the spring was active and lively, while the other was motionless and to all appearance, dead. She emptied them out upon the ground and left them. The day was warm and sunny, and before long they awoke to find themselves out of house and home.

The discussion was kept up until a late hour, and closed unfinished. A remarkable feature about it was that wintering on sugar stores found no advocate, and none expressed themselves in favor of it except as a supplement to an insufficient supply of honey. Strong things were said as to the wisdom of wintering bees on the best honey, gathered early in the season, and thoroughly evaporated.

The Toronto Industrial Exhibition lasts two weeks, and during the first week the Provincial Fair was going on in London, which kept away the bee-keepers of Western Ontario. This fact, and the desire for fuller discussion of many topics, led to a resolution of adjournment until the next week, to which time, the election of officers and some other business was postponed.

The Directors of this enterprising Exhibition have this year offered as premiums in the Apiarian Department, the liberal sum of $236, besides silver and bronze medals.

The exhibition of honey and supplies, already very fine, will, it is expected, be largely supplemented next week by new arrivals, and a detail of the more important features of this department can be better given at a later date. This report may therefore be fitly closed with the announcement, "more anon."

For the American Bee Journal.

Eastern Indiana Convention.

The Eastern Indiana Bee-Keepers' Association met at Richmond, Ind., on Sept. 3, 1885, President Johnson occupying the chair.

Mr. Jonas Scholl, President of the State Bee-Keepers' Association, being present, was called for, and favored the members with some very interesting remarks as to the objects of the Bee-Keepers' Association, and cordially invited the members to visit the State meeting in January, 1886.

The following officers were chosen for the ensuing year: President, Dr. C. N. Blount, Hagerstown; Vice-President, Dr. L. C. Johnson, Fountain City; Treasurer, E. Parker; and Secretary, M. G. Reynolds, Williamsburg.

Among the numerous questions discussed was, "Does it pay to use comb foundation in the brood-chamber?" All favored its use. Mr. Johnson had tried comb foundation eight square feet to the pound, in wired frames, and had as nice combs from such as he ever saw.

The wintering question was discussed at length. "How much and what kind of food is best for wintering bees?" was asked, and answered as follows: Mr. Reynolds gives his bees 25 pounds of honey per colony, if he has it, if not, syrup made of coffee A sugar; he does not remove the pollen. Mr. Scholl gives at least 25 pounds, and wants them to have plenty of pollen. He stated that he wintered his bees, 50 to 100 colonies, successfully for the past ten years on the summer stands, in double-walled hives, on natural stores—honey and pollen. Messrs. Johnson, Parker, Replogle and Steddom, all favored natural stores for bees in winter.

It was decided that during the month of September was the best time to feed bees for winter, but not to feed in too large quantities. Seven frames in the brood-chamber in winter was considered best. The majority favored the continuance of brood-rearing until the end of September.

Those present represented 408 colonies, spring count, and 726 at present; average number of pounds of honey per colony, so far, 26.

The members from Union and Fayette counties, of Ind., and Preble county, of Ohio, reported no honey this year in their localities. The largest yield from a single colony reported by those present, was 150 pounds of comb honey, and another, 190 pounds of extracted honey.

Various apiarian supplies were exhibited, besides samples of honey from various kinds of honey-plants, and some honey-vinegar.

The meeting then adjourned until April, 1886.

M. G. REYNOLDS, *Sec.*

For the American Bee Journal.

Controversies, Swarming, etc.

G. C. GREINER.

The "hint" to correspondents, on page 547, is the expression of my mind exactly. Lately a good share of the contributions to the BEE JOURNAL have seemed too much like an effort to see who could strike the most vital blow at the opponent's feelings. This is not right; let us converse in a friendly, good-natured manner, but leave the *stinging* for the bees.

On page 540, Mr. Chas. Mitchell has undoubtedly made a little mistake in stating his case. He says: "Every fifth colony, hived on the Heddon plan, has cast a *second* swarm this year." Are we to understand that his first swarms have swarmed twice? I speak of this because I have worked part of my bees on that plan this season, and intended to give the results later on; besides, my experience is so different from Mr. M's that I wished to have the matter understood aright.

I cannot endorse Mr. Fox's suggestions on page 523; the reply made by the Editor is also my view of the matter. If our investment in the shape of fees and assessments gives us the benefit of honestly securing our daily bread, in the way we choose unmolested, I shall feel amply paid for the outlay.

Cold and rainy weather has made the taking off of the last surplus almost impossible; for weeks I have been patiently waiting for a warm spell to make the handling of bees practicable.

Naples, N. Y., Sept. 8, 1885.

Country Gentleman.

Poisonous Honey.

M. D.

A recent case which happened in South Carolina of the poisoning of several persons by honey supposed to have been gathered from the yellow jasmine (*Gelsemium sempervirens*), is well worthy of note by bee-keepers, and others who may be concerned. The facts are as follows: A quantity of honey was procured in May last by a family living in Branchville, S. C. A boy eleven years old was the first in the family to eat some of this honey. In an hour afterward the child became giddy and staggered as he walked, and could not see. He was affected with general lassitude and slight nausea. In two hours he was seized with convulsions and died. The honey was given to a negro woman, who gave it to her children. In one hour two of these children died, after an attack of dizziness, blindness and nausea. Several other persons who ate of the honey were made sick in a similar manner, but vomited, and so escaped fatal results. This circumstance has given rise to some discussion among bee-keepers as to the cause of the poisoning. The locality of Branchville is one in which the yellow jasmine grows abundantly, and flowered the present year in March, which was later than usual. The question is, was the poison which caused the death of these children derived from the plant in question?

Gelsemium sempervirens, or the yellow jessamine, or jasmine, is a plant of a highly poisonous character. It is a vine which bears a pretty, yellow, trumpet-shaped flower which has a fragrant odor, but it is not related to the true jasmine. It is a member of the natural order, *Loganieæ*. It is a popular vermifuge in the South, and is a most active medicine, used in a variety of cases, and when taken in large doses is virulently poisonous. A well-known physician in Virginia was accidentally poisoned by taking an excessive dose of the extract. Its effects are to depress the nervous system and the action of the heart, greatly reducing the arterial circulation, and causing paralysis of the muscles of the eyelids, of the optic nerve, and general loss of muscular power, with nausea resulting from the depression of the circulation, and general prostration. The nervous debility ends in convulsive contractions of the muscles, and this immediately precedes death. The patient is insensible from the nervous paralysis during the later symptoms. The medicine acts very rapidly, and in half an hour its full effects begin to be felt. Two to three grains of the powdered root, or two to three drops of the extract or tincture, is a dose, and forty drops is fatal to an adult. One of its effects when given in proper doses is to remove rigidity of the *os uteri*, and it might therefore be given to cows in cases of retention of the fœtal envelopes with good effect. Twenty grains of the powdered root, given every two hours, would no doubt have a useful effect in such cases. But this is a digression from the point in view.

The question is, was this honey made poisonous by the gelsemium? I think there is no doubt of it. The active poisonous principle resides in the flowers equally with the root. Indeed, the scent even of these flowers will produce nausea, headache, dizziness of vision, and trembling, in some persons. The nectar of the flowers is a concentrated extract of the plant, and undoubtedly contains the poisonous principle. The symptoms exhibited by the children who died, are precisely those produced by an over-dose of the powdered root, or the extract, and are different from those of any other drug, or any mineral poison. The abundance of the plant in the locality is strong circumstantial evidence, and so is the season in which the honey was stored. No other poisonous plant of this character blooms so early in the year, and there is no evidence whatever that the bees could procure any substance which could possibly produce this effect.

What, then, is the duty of bee-keepers in such cases? Poisonous honey is not infrequently met with. I have myself been made sick by honey several times during the past 20 or 25 years. Once the cause was clearly traced to the so-called mountain laurel (*Rhododendron maximum*) which blooms in July and August. Another time it was honey-dew, and many complaints have been made the past winter of the same result. If there are all these risks and dangers, must not honey-producers take pains to avoid them, for the safety of the public? If a person sells poisonous honey, and death ensues, clearly a moral and a legal liability attaches to him. This is a very serious consideration. It has long seemed to me that a new departure must soon be taken by bee-keepers, and that is to own their own farms, and cultivate the best honey-producing plants for the forage of their bees. Another duty, clearly, is to avoid the use of all known poisonous plants by the bees.

[This matter was briefly mentioned in last week's BEE JOURNAL, on page 588. We there remarked that bee-keepers should exercise due care, and that where poisonous plants are found, bees should not be kept.—ED.]

* * *

For the American Bee Journal.

St. Joseph, Mo., Bee and Honey Show.

E. T. ABBOTT.

The St. Joseph Exposition for 1885 was a grand success. We had the largest and finest display in the bee-department that we have ever had. The Board gave us all the space we wanted, and every one had a chance to display his goods to the best advantage. Too much cannot be said in praise of the officers of the Exposition, for the liberal treatment which bee-men have received at their hands. About $300 in premiums was offered in this department, and the list was well represented.

Mr. Armstrong, of Jerseyville, Ills., took the first premiums on the best colony of Italian bees, comb honey, beeswax, his bee-hive, and a number of other things. The "St. Joseph Apiary" carried off the first premium on extracted honey, case for display of honey on sale, Syrian, Cyprian and Carniolan bees, and several small premiums.

Mr. Alfred H. Newman's Excelsior honey-extractor took the first premium. The "Berlin Fruit-Box Co." got the first premium on honey-sections, and Mr. Muth took the first premium on his "Perfection" bee-smoker. The "glass front" bee-veil had no trouble in winning the first premium, and Mr. Alley's drone-trap was honored with a diploma.

There were two large displays of apicultural literature on which Mr. Parker was awarded the first, and the "St. Joseph Apiary" the second premium. The Superintendent of the department had a large photograph of Mr. Langstroth framed and set up in a conspicuous place, accompanied by a slip of paper on which was written, "Rev. L. L. Langstroth, inventor of the movable-frame hive." Many stopped to look at his genial face, and, we trust, went away with the impression that in a certain sense he might be called a benefactor of his race.

We hope that next year the readers of the BEE JOURNAL will remember the St. Joseph Exposition, and come with their bees, honey, etc., and help to swell our display. We are confident that they will not regret it if they do.

St. Joseph,⊶ Mo., Sept. 8, 1885.

* * *

Plowman.

Fall Work—Marketing Honey.

C. H. DIBBERN.

Now is the time for the bee-keepers to see that all is right with the bees. Examine every colony that does not work like neighboring colonies; see that they have queens and brood in compact form; also that they have sufficient honey for the coming winter. Colonies that are now found queenless should be given laying queens, as it is now too late to try to have the bees rear queens from eggs given them. If no queens are at hand it will be better to unite these queenless ones with some other having a queen, but somewhat deficient in bees.

This is easily done by thoroughly smoking both colonies, and then shaking the bees off the frames from both colonies, on a sheet, mixing them as much as possible. Hive them as you would a swarm, using all the combs containing brood, also giving them as much honey as will winter them. Place the colony thus united, on the stand occupied by the one having the queen, and set up a broad board over the entrance to cause the bees belonging to the other hive to mark their new location. Remove the old stand of the old colony, and destroy all the land-marks about the old location. All such work as handling frames, opening hives, and taking off honey, should be done during the September honey-flow, when bees are peaceable and less inclined to rob.

Give them only as much surplus room as they will occupy readily. Take the sections from such colonies as are not at work in them, and give them to those that require them, so as to get all filled. We cannot expect bees to gather honey much later in this latitude than Sept. 20. Usually we have a frost about this time, but if not, the last of the flowers are going out of bloom, and there is nothing to gather from.

The season has not been a very favorable one; yet the bee-keeper who has made the most of everything will have some honey to sell. We have the consolation of knowing that what honey has been secured is very nice, as we have not been troubled with the honey-dew nuisance in this locality.

Now is the time to get honey ready for market. This requires a great deal of care and work. The honey should all be assorted into at least two grades, white and yellow; sometimes it is also necessary to make a third, or dark grade. The white is usually classed as white clover, the yellow as goldenrod, and the dark as buckwheat, as a majority is, perhaps, gathered from those sources. The price of the different grades váries somewhat, but a fair difference would be about two cents; thus, if white honey is worth 18 cents, yellow should be worth 16 cents, and dark 14 cents. Extracted honey should sell for about two-thirds as much as the same grade of comb honey.

Having assorted the honey, every particle of propolis should be scraped from the sections. Care must be used not to injure the sealed honey, or it will surely leak out, daub up the crates, and disgust the groceryman. These sections should now be crated in crates having glass on two sides, and holding 20 to 24 pounds. The crates should be of new wood, neat and light, and branded with the producer's name and address. It is rulable to put the finest combs next to the glass, but the inside must be of the same grade, and the bee-keeper's name on the crate should be a guarantee that such is the case. The bee-keeper should ever aim to create a demand for his honey by its superior quality, and by his honesty and fair dealing.

Now, having our honey ready for the market, the question arises, what shall we do with it? I say, do not be in a hurry to take it to the nearest railroad station and ship it to New York, or some other large city. Those cities are nearly always well supplied, and prices are not always satisfactory, and returns are often a long time delayed. There are but few localities in the West where all the honey that can be produced cannot be sold in the nearest town or city. Take a sample crate or two of honey and call at every desirable grocery and take orders. Do not take a large load, as you will thus create the impression that there is a heavy crop, and grocerymen will want to buy at a small price. Do not be anxious to sell to every store-keeper a large amount; it is better to sell him a crate or two, so he will want more when you call again.

Many grocerymen will say that they cannot handle honey till cold weather comes, on account of the flies. Show them how easily they can keep the flies and dust out of your nice crates, and they will readily take hold of it and become regular customers, even during the hottest weather. In making sales, cash should be insisted upon, even if you spend part of the money for groceries afterwards. Every store-keeper with whom it is desirable to deal, ought to be able to pay the cash for a few crates of honey. When it is once understood that honey is "cash," there will be little trouble in settling on that basis to the advantage of all concerned.

Milan,⊶ Ills.

For the American Bee Journal.

Cellar vs. Out-Door Wintering.

N. L. MINOR.

I think that the air of a cellar becomes poisonous and thus kills the bees. I have read the discussions in the BEE JOURNAL about the cause of bee-diarrhea. A neighbor lost some bees by diarrhea caused by eating poor honey, or from vitiated air. Bad honey has the same effect on bees as raw or green vegetables has on certain persons when the latter eat them. There has never been any bee-diarrhea in my apiary. I have often removed old combs from the hives and melted them into wax, and replaced them by frames of foundation. Those of my bees that had clover or fall honey in their hives, wintered all right. Some bee-keepers in this vicinity, who extracted all the good honey and fed sugar syrup, lost all their bees.

I think that some kinds of honey contain medicine which the bees require in winter. I noticed a sick dog searching for "dog-grass," which he ate, and it cured him. I believe bees need some medicine in winter, and that it is found in their natural stores.

My bees are now in splendid condition, and are ready for work, but the weather is too dry. Many correspondents of the BEE JOURNAL who wintered their bees in the cellar last winter, sustained heavy losses, and I do not believe that bees should be kept in cellars where they can be safely wintered on the summer stands.

Clarksville,♂ Mo., Aug. 21, 1885.

For the American Bee Journal.

Bees and Glucose.

L. C. WHITING.

Seeing an extract in the East Saginaw *News*, copied from the Chicago Daily *News*, and originally written for the Detroit *Free Press*, I sent the following explanation and had it published as an offset to that story, which was written in the style of Peck's bad boy, and was evidently a burlesque or something worse, on the part of the author.

For instance, the writer said the bees were being fed glucose, and to prove it pointed out a barrel labeled grape sugar. Now grape sugar, if dissolved, would turn back into sugar again before he had time to sell it, and would not be the color of honey, and of course be unsalable. To a bee-keeper the case (if there was any truth in it at all) stands like this: Bees, as a rule, only rear brood when honey is coming in. There is a time in the summer, after white clover has gone to seed, that there are no flowers to yield honey for several weeks. Bee-keepers have learned that it pays to feed back poor honey during this dearth of blossoms to keep the queen laying to rear workers to gather the honey that comes later. This is probably what the Detroit bee-keeper was doing. The life of a worker bee in the honey season is very short, from 60 to 90 days. If the flow of honey ceases for 30 days, nearly half the bees in the hive will have died from old age. Those unacquainted with the short life of the worker-bee think some disease has killed them.

Bee-keepers feel after such a winter as the last that they have about enough to contend with without being advertised as selling glucose for honey. We sometime will have a law that will compel persons to sell things for what they are or forfeit their goods, and the sooner the better.

East Saginaw,○+ Mich.

For the American Bee Journal.

Systems of Bee-Management, etc.

W. H. STEWART.

On page 491, Mr. D. L. Shapley says: "If each one who writes for the BEE JOURNAL would give a carefully prepared statement as to how he manages bees, both during summer and winter, I think it would help any one just starting in the business, and also old bee-keepers, for the methods used in one locality might prove destructive in another. I think this would give information so that one could tell what would be best in that locality in which he might wish to start an apiary."

I think that Mr. S. expresses a good idea in the above. It is a leader in the right direction. We all have been giving, as best we could, what we have learned during the many years of bee-keeping, but it has been given disconnectedly, as the occasion seemed to require. Sometimes one correspondent would write an article on wintering in one number of the BEE JOURNAL, and perhaps his next article would be on the marketing of honey or introduction of queens, and in thus skipping from one subject to another it is almost impossible for the reader to glean from those scattered items, a full and correct understanding of the system which the correspondent has adopted.

I have tried to read carefully what prominent apiarists have written, but I must say that I am not able to tell how either of them manage through the whole year. It is true that none may be able to give a complete and correct statement of a whole year's work, as many items may be forgotten, and an item thus overlooked might be of importance to one that would adopt that particular management. Again, circumstances are ever changing; hence what we have occasion to do to-day, we may never have occasion to repeat. Furthermore, progressive bee-keepers are constantly learning new and better ways of performing the same operations. Thus it is that after each has given his *modus operandi* as carefully as he is able to do, the reader will be under the necessity of asking many questions, and also many revisional chapters will have to be written for the purpose of giving new thoughts, new discoveries, and the results of experiments. What we learn to-day is not the end of knowledge; it is only a torch that is to shed a light on fields yet unexplored.

If each writer should give a full statement of his management, no one would know more than all the others; and it would be wisdom to study carefully each statement, gleaning from them all the best points, and then frame a new system; but this means *work*. No beginner can reasonably expect to be carried into successful bee-keeping "on flowery beds of ease."

MY OWN MANAGEMENT.

It may appear a little queer that I should begin at so unusual a date to give my method of managing my bees through the year; but I have considered the matter very carefully, and have concluded that to begin at any other date would disarrange the whole work. I will commence at about the middle of the basswood honey-flow.

If I have nuclei or other colonies that are just starting a plenty of queen-cells, then I am all right; but if not, then I unqueen a few strong colonies, and prepare part of the brood-combs as per Mr. Alley's plan, for the building of plenty of queen-cells. I give brood-combs to the old queens, that have been removed, and a few bees, place them on a new stand, and thus form a nuclei with each queen.

Now to proceed with the work of extracting, as I work my apiary for extracted honey altogether, I have my hives placed in regular rows across the yard, and when I begin extracting, I examine the first colony in the first row, and take each one in regular order in that row, treating the next row in the same manner until every colony in the apiary has been attended to.

When I commence on hive No. 1, I have with me a smoker, a small basket of fuel for the smoker, and a tool made of about 10 inches of the pointed end of an old buggy-spring, having the point ground round and about as sharp as a common table-knife, both edges being hammered or ground to the same sort of an edge for about 5 inches from the point. By bending this "knife" something like a honey-knife, it can be used to clean wax or propolis from any part of the hive, and prevents the hand from striking against it. I can push the wide point of this "hive-knife," as I call it, between the hive and the cover, and pry the cover loose without marring the edge of the hive, as I would be liable to do with a sharp, narrow tool.

When the cover is loose, I raise it a little, but not enough to allow bees to run out, then blow in a little smoke, for when bees are busy on basswood they can be quieted with very little smoke. Hold the cover quiet with the hive-knife for a few moments, then remove it, and as you hold it in both hands by its opposite edges, bring it down over the hive with a quick jerk, which will throw all adhering bees down upon the combs. With the hive-knife scrape off all the brace-combs that may have been built in the bee-space between the hive cover and the top-bars of the frames, and carefully save all the wax thus obtained. I have with me also a wheelbarrow prepared expressly for carrying combs and tools that I use among the bees. This wheelbarrow is indispensable, and yet it is cheaply and simply made.

This honey-carriage stands by me as I open the hive, and as I scrape the wax from the hive-cover, I sometimes find with that wax a little honey, which should be kept from the bees, so I open the comb-box on the carriage, and with a quick motion throw the wax into it; and as there is a four-inch open space below the hanging combs in the comb-box, the wax goes down out of the way until it can be cared for

In a future article I will continue the description of my management, and also tell how and why the combs in the super that I have thus opened are well spread apart; and how, as I examine them from the top-bars, or look down between them, I can judge very correctly whether part or all are ready to be taken away. I have a boy to handle the smoker and to assist me by running short errands, while I do the most of the more particular work.

Orion, 9 Wis.

Read at the Maine Convention.

Successful Wintering of Bees.

R. S. TORREY.

One point in which scientific bee-keepers widely differ, is in the wintering of bees. Some recommend one method and some another. I differ from the most of them, and having been successful for the last ten years, I will describe my manner of wintering bees.

It is well understood by scientific bee-keepers that the queen deposits her eggs and the young bees are reared in or near the centre of the combs, and the honey is stored in the combs outside of the brood-nest, the extreme outer combs usually being occupied by the bees for storing honey. When it becomes cold in the fall, the bees huddle together in a cluster in the empty brood-comb where the young bees have hatched out, and as they are obliged to remain in this cluster during cold weather, there is but one direction in which the cluster can move to obtain their food, and that is directly upward.

Heated air always rises, and the animal heat of the cluster of bees will warm the honey above them so that they can move in that direction to secure their food until all the honey above the cluster is consumed; then if the weather continues cold, so that they are not able to leave their cluster, they will starve to death with plenty of honey at their sides and below them. I am of the opinion that 75 out of every 100 colonies that die in this State, die of starvation during the winter months, with plenty of honey at their sides and below them. In low, flat hives bees will occupy nearly the whole depth of the hive for their brood-comb, leaving no chance to store their winter supplies over them, but are obliged to store it at their sides, where they are unable to reach it in cold weather.

I winter my bees on the summer stands, and in the fall, on approach of cold weather, I take all their honey from their sides and place it immediately over them in the top of the hive, putting all the empty combs in the lower part of the hive for the bees to cluster upon. I then make a whole box without top or bottom, and set it over the hive, the box being large enough to leave three or four inches of space between the outside of the hive and the inside of the box. I then fill the space with some non-conductor of heat and cold. I consider sawdust the best, but for the want of sawdust I have used leaves, boughs, meadow-hay and straw. Some 15 years ago I used chaff for packing, but after using it for three or four years I abandoned its use for the following reasons:

1. Chaff is liable to contain more or less seed, which is very inviting to mice, and mice are very fond of obtaining access to the inside of a bee-hive, and often destroy whole colonies, eating bees, honey and the comb. 2. If the chaff is not kept perfectly dry it will mold and become very offensive to the bees. 3. It is expensive.

After filling in the space between the hive and box, I cover the top of the hive with a thick straw-cushion, and over the whole a tight cover is placed to keep it dry; and after I have them thus prepared, I no more expect to lose my bees in winter than I do my sheep, hogs, or any other farm stock.

My advice is, keep your bees in winter, cool, dry, quiet and dark, with moderate ventilation according to the population of the colony, and protected from the sudden changes of temperature, with plenty of good, well-capped honey directly over them to winter on.

For the American Bee Journal.

Direct Introduction of Queens, etc.

WILLIAM DAVID SLADE.

Mr. Abel Gresh, on page 506, says that he is fully convinced that the Simmins' method of direct introduction of queens, is "not a safe one," and doubts if he could "succeed with it in a single instance, unless under peculiar circumstances." It is to be hoped that he speaks thus only for himself, and not even for those with but little knowledge of queen introduction.

As an amateur, last year, I introduced 3 Italian queens on the same day of their arrival by mail, by simply letting 2 of them walk between the top of the frames, and the other on the old cage-plan. All were equally accepted and did well. This year I have introduced, as Mr. Simmins directs, 20 or 30 queens, some after a long journey, and others out of my own apiary; some on their own combs at the top of the frames, and others at the entrance of the hive, etc., under various conditions, and at different times of the day. All were accepted but 4 that came from a distance, and I had no proof that they were in good laying condition.

In the case of valuable queens it is best, as Mr. Simmins directs, to confine them on a frame for three days, thus enabling the queen to recover from her journey and confinement, and to start them in a nucleus, though I have not found them to fail when put in full colonies. Last month I received some valuable Syrian queens, and these I confined on a frame for three days in full colonies, in one case removing the queen of the hive in which the Syrian was confined, and releasing the Syrian queen. In the other I took out a queen of a full colony, and introduced the foreigner at the same time, to be accepted as usual.

If such articles as Mr. Gresh's are left unchallenged, they are liable to mislead and discourage bee-keeping by making it troublesome, and occupying unnecessary time. Time is money. Speaking for others and myself, we gladly recognize our debt of gratitude to Mr. Simmins for giving us a successful, easy, and quick method of queen introduction; as well as for his system of dry-sugar feeding, enabling those of us who have little time to spend from business, to keep profitably 50 colonies with less fatigue and time than we could formerly keep 20.

I take this opportunity to send my membership fee and first assessment for the National Bee-Keepers' Union. Our bee-keepers are necessarily interested in the result of your pending trial, and in such a grand year as this has proven to us, every one should thankfully contribute his mite.

Cheltenham, Eng., Sept. 2, 1885.

For the American Bee Journal.

Nursery and Queen-Cage.

W. B. THORNE.

Mr. Alley's combination nursery and queen-cage, as described on page 520, is certainly very ingenious, and will be appreciated by a great many; but I am of the opinion that the same results can be secured with a Peet queen-cage, without the necessity of removing a frame from the hive that it is to be operated upon. The ordinary Peet cage is about ½ of an inch in thickness, and consequently little displacement of the frames are necessary. The way to transform a Peet cage into one like Mr. Alley's, is as follows:

Make a ⅜-inch hole in the edge of the cage, into the candy, and for a cover take a piece of tin ½x1 inch, and with a wire nail on one end of the tin, it will revolve over the hole, or can be turned half way around, and be out of the way when the candy is to be exposed for the release of the queen.

For the nursery or queen-cells, drive a pin through the edge of the cage into the large hole, in a manner that when the cage is suspended by one end the pin will form a hook, and hang the cell on the pin; to complete it only requires a piece of wire fastened to the cage and bent over the brood-frame.

There are many that have neither the time nor the talent to make the Alley cage, who can transform a Peet cage in the above manner and derive all the benefits, without removing a brood-frame, which, if possible, should be avoided.

Glenn,⊶ Kans.

Pacific Rural Press.

Producing Extracted Honey.

WM. MUTH-RASMUSSEN.

As soon as the colonies are strong enough, filling the brood-chamber with honey and brood, and the bees are building little fins of new white wax on top of the frames and in other parts of the hive, then it is time to put on the surplus story. This may be furnished with a full set of empty combs, or with combs and frames of comb foundation, alternating with each other, or even with foundation alone, if no combs are to be had. If foundation alone is used, it must be watched, that it does not break down by the heat of the hive, and under the weight of the bees hanging on it. If half the frames contain empty combs, these will give the bees a firm support, so that only one-half of the weight comes on the foundation, which is suspended between the combs. I therefore prefer this arrangement, unless I have a full set of combs to give them.

New swarms should be compelled to fill the lower hive before the surplus story is put on, otherwise they will either leave unoccupied space in the brood-chamber, or not enter the surplus story at all; and as long as they are not strong enough to do so, they are better off without it. Presuming that the lower combs are built on foundation, it will be necessary to fill the frames in the upper story with full sheets of the same, to prevent the bees from building drone comb there, which they would do without it, and the queen would occupy them with drone eggs, having at this time of the year a natural desire for drones, and being prevented rearing them in the brood-chamber. Before putting on the upper story it will be well to uncap or mash the capping of such honey as may be in the central brood-combs. The bees will remove this honey and store it above, thereby giving the queen more room below. It is also well to take out a comb of unsealed brood from the lower story, and place it in the centre of the upper, which often will make the bees commence work there sooner than they would without it. The vacancy in the lower story should be filled with an empty worker comb or a frame of foundation, but never with an empty frame. Examine the upper set of combs occasionally, and when they are nearly full and sealed over, take them out and extract the honey.

Have a tight box covered with a cloth tacked to the box at one side, in which to place the combs and carry them to the honey-house. Always bring an empty set of combs, with which to replace those taken out, that you may not have to open the hive twice. If any brood is found in the combs, it will not injure it to extract the honey, provided it is not revolved too fast. Such combs may, however, if preferred, be left until the brood is hatched, or it may be given to weaker colonies before or after the honey has been extracted. If any of this brood is sealed over, the capping should, of course, not be touched with the honey-knife. At the last extracting in the fall the upper stories should be taken off and stored away. Before extracting the honey, examine the lower combs or lift the hive to ascertain if the bees have stores enough to carry them through the winter; if not, then give them full, well sealed combs. Be very careful not to get the bees started to robbing at this time, as it may cause the loss of several colonies, besides making it very unpleasant, if not dangerous to every living being around the apiary. I would also advise the keeping of a number of full combs on hand, as some of the colonies may run short of honey in the early spring, and giving them these combs is the safest and quickest way of feeding them. If the combs are not needed for this purpose, they may be given to swarms, after being uncapped, and the honey will be used for comb-building or brood-rearing; or they may be used in making colonies, before the weather becomes warm and settled enough to insure a daily supply from the outside.

Independence,⊶ Calif.

For the American Bee Journal.

W. Virginia Bee and Honey Show.

L. C. SEABRIGHT.

I send an item from a newspaper giving an account of my exhibit at the State Fair at Wheeling, W. Va. Out of 17 entries I took 16 first premiums and one second premium. Until the present year this Fair never gave premiums of any consequence, only offering $1 as a first and 50 cents as a second premium for samples of comb honey.

So last year I thought I would take a sample of comb honey and also a sample of extracted (although there was no premium offered for extracted), and talk to the Fair Managers about giving better premiums for bees and honey. I also took some copies of the AMERICAN BEE JOURNAL with me and showed them what premiums were offered at other Fairs, for bees, honey and apiarian supplies; they appeared to be astonished. I then told them that if they would offer premiums of any account, I would try and make a display. So this year $69 in premiums was offered, and they have promised to do better next year.

Blaine,⊶ O., Sept. 16, 1885.

[Here is the item from the *Register*, of Wheeling, W. Va.:

Perhaps no single exhibitor throughout the entire Fair captured so many first premiums in their various departments as has Mr. Seabright, of Belmont county, Ohio. This gentleman makes a specialty of bee-culture, and his full colony of Italian bees, one-frame nucleus, and his glass observatories were objects of great interest to many thousands that visited our State Fair. His section comprised the northeast corner of the Horticultural Hall, and it seemed to be the leading attraction in this building. Mr. Seabright carred off 16 first premiums.

This exhibit will, no doubt, sell all the honey Mr. Seabright can produce, and make his brand of honey popular, thereby insuring him a large sale and permanent home market.—ED.]

Convention Notices.

☞ The Maryland, Virginia and West Virginia Bee-Keepers' Association will meet in the Court House at Hagerstown, Md., on Wednesday, Oct. 21, 1885, at 10 a. m.

D. A. PIKE, *Pres.*

☞ The Southern Illinois Bee-Keepers' Association will hold a meeting in Duquoin, Ills., on Thursday, Oct. 1, 1885, at 10 a. m. All are invited. F. H. KENNEDY, *Sec.*

☞ The Union Bee-Keepers' Association of Western Iowa will meet on Friday, Oct. 2, 1885, at Dexter, Iowa. All bee-keepers are cordially invited to be present.

M. E. DARBY, *Sec.*

☞ The Progressive Bee-Keepers' Association, of Western Illinois, will meet at Macomb, Ills., on Thursday, Oct. 15, 1885. Let everybody come and have an enjoyable time. Good speakers are expected.

J. G. NORTON, *Sec.*

☞ The New Jersey and Eastern Bee-Keepers' Association having accepted an invitation to meet with the Mercer County Board of Agriculture, of Trenton, N. J., will hold their semi-annual convention in the Grand Jury Room of the Court House at Trenton, N. J., on Thursday and Friday, Nov. 5 and 6, 1885, at 10 a. m. A full attendance of the members is requested. To all persons interested in our vocation, we extend a cordial welcome. The committee of arrangements have secured hotel accommodations at reduced rates.

WM. B. TREADWELL, *Sec.*

☞ The Western Bee-Keepers' Association will hold its fourth annual meeting in Independence, Mo., on Thursday and Friday, Oct. 15 and 16, 1885. The Association will endeavor to make this the most interesting meeting yet held, and will spare no pains within its means to make it valuable to all. Several of our most prominent bee-keepers have signified their intention to be present.

C. M. CRANDALL, *Sec.*

☞ All who intend to be systematic in their work in the apiary, should get a copy of the Apiary Register and commence to use it. The prices are as follows:

For 50 colonies (120 pages).............	$1 00
" 100 colonies (220 pages)......	1 25
" 200 colonies (420 pages).............	1 50

The larger ones can be used for a few colonies, give room for an increase of numbers, and still keep the record all together in one book, and are therefore the most desirable

Local Convention Directory.

1885. *Time and place of Meeting.*

Sept. 23, 24.—Kentucky State at Covington, Ky.
J. T. Counley, Sec., Napoleon, Ky.

Oct. 1.—Southern Illinois, at Duquoin, Ills.
F. H. Kennedy, Sec., Duquoin, Ills.

Oct. 2.—Union, at Dexter, Iowa.
M. E. Darby. Sec., Dexter, Iowa.

Oct. 10.—Wabash County, at N. Manchester, Ind.
J. J. Martin, Sec., N. Manchester, Ind.

Oct. 15, 16.—Western, at Independence, Mo.
C. M. Crandall, Sec., Independence. Mo.

Oct. 15.—Progressive, at Macomb, Ills.
J. G. Norton, Sec., Macomb, Ills.

Oct. 21.—Md., Va. & W. Va., at Hagerstown, Md
D. A. Pike, Pres., Smithsburg, Md.

Nov. 5, 6.—N. J. & Eastern, at Trenton, N. J.
Wm. B. Treadwell, Sec., 16 Thomas St., N. Y.

Dec. 8—10.—Michigan State, at Detroit, Mich.
H. D. Cutting, Sec., Clinton, Mich.

Dec. 8—10.—North American, at Detroit, Mich.
W. Z. Hutchinson, Sec., Rogersville, Mich.

Dec. 8-10.—Northwestern, at Detroit, Mich.
W. Z. Hutchinson, Sec., Rogersville, Mich.

☞ In order to have this table complete, Secretaries are requested to forward full particulars of time and place of future meetings.—Ed.

SELECTIONS FROM OUR LETTER BOX

Good Time with the Bees.—E. Stahl, Kenner,⊸ La., on Aug. 6, 1885, says:

We are having a good time here with bees this season. I have over five hundred of as strong colonies of bees as can be found anywhere in the United States, and they are loaded with honey. One fault I find here in the New Orleans market is that honey is worth nothing at present. I have been engaged in bee-culture for about 20 years in this locality. I have a large amount of honey on hand, and a quantity of beeswax.

Making Honey-Cases.—George M. Thomson, Grand Junction,⊙ Iowa, says:

I would like to ask of those who have used the Heddon case, whether ⅜-inch lumber is as good for making its sides as lumber that is heavier.

Introducing Queens, etc. — L. L. Triem, Laporte City,⊙ Iowa, on Sept. 12, 1885, writes:

On page 520 I find Mr. Henry Alley's article on introducing queens, and I have carefully read his instructions, but I find no place where he says anything of the length of time the queen is to be caged before the tin slide is to be taken away so the bees can remove the candy. I have introduced six queens as per his plan, viz: bees are to be queenless three days, the new queen is then caged 48 hours, the tin covering over the candy removed, and the queen is accepted every time. Will Mr. Alley please tell us whether he allows the bees to eat out this bee-food at *once*, or is the queen to be caged any time? Our work at present in the apiary is to weigh each colony intended to be wintered, having an 8-frame Langstroth hive without the cap, but having a tight honey-board, 25 pounds, bees 3 pounds, pollen 2 pounds—total 30 pounds—is deducted, and each is then fed sugar syrup *a la* Doolittle, until it weighs 55 pounds. Another plan we have followed for two years, is to register every colony. The hives are all numbered, a page in the register being allowed for each colony. Each queen if reared artificially or naturally is so marked. My queens reared by the natural process are far ahead.

Willow Bark-Lice.—L. G. Sartorius, Conrad Grove,⊙ Iowa, writes thus:

I find insects on some of my white willow the color of wood-ashes. The full grown ones are half as large as a house-fly. They are on the trunks and limbs of the willows, and the space which they occupy is totally covered with them from one inch to one foot in length, generally on one side of the tree or limbs. My bees are working on the leaves and limbs of these trees. What is it? Is it injurious to the bees?

[This is the willow bark-louse (*Lachnus dentalus*), a not very uncommon insect. The bees are after the sweet fluid (honey-dew) exuded by the lice. Tastes may possibly differ upon the desirability of honey supply from such a source, but certainly most of us prefer the nectar of flowers. To say the least, this "honey" is of exceedingly poor quality. I do not know that it is actually injurious to bees.—T. J. Burrill.]

The Early Honey Crop.—Abe Hoke, Union City,⊶ Ind., on Sept. 14, 1885, says:

In this locality we had a pretty good crop of early honey, but for the past two months the bees have not made more than a living, and the last three weeks of that time has been too cold for honey secretion. To-day it is warmer, and the bees are at work. I started in the spring with 14 colonies, and I now have 30, having sold 6 colonies and secured at least 600 pounds of comb honey in 2-pound sections. I am glad to see that the Bee Journal will hereafter be published for one dollar a year. I think I can get up a club of subscribers for it.

Oil-Cloth Covering.—J. S. B. asks for information as follows concerning the use of oil-cloth covers on hives:

On page 356 is a query concerning the use of enameled-cloth covers on top of the frames in winter, and those who answered it were not in favor of its use. I am somewhat acquainted with a bee-man who uses chaff-hives with oil-cloth covers on top of the frames, but not all over them. He puts them on in the front part of the hive, letting them extend about three-fourths of the way back, then turns the oil-cloth back toward the front of the hive, and then places a chaff-cushion on top of the oil-cloth. He claims that the oil-cloth in front makes it warmer for the bees to cluster under, and then its being turned up from the back part of the hive, gives the moisture a chance to pass up into the cushion. He began the winter with 18 colonies, and succeeded in wintering all of them. Is not carpet a poor covering for bees in winter? Does it not hinder the moisture too much in escaping? I also would like to know the best way to put the oil-cloth on the hives.

A Bee-Sting in the Eye.—Thos. Gorsuch, Gorsuch,⊙ Pa., on Sept. 15, 1885, says:

This has been a poor season for honey in this locality. There was plenty of bloom, but it did not yield much honey. On Sept. 9, while showing a friend through the bee-yard, a bee lit on my left eye, and as one is apt to close the eye on the approach of danger, I did so, having both hands occupied at the time. The result was that the bee left its stinger in my eyeball, but it did not strike the sight. I had the stinger removed, and then applied baking-soda in cold water for one hour; I then applied slippery elm in cold water for 24 hours, which kept down the inflamation, and at present my eye has no pain, but it is very weak. I give the treatment so if any of my fellow-bee-keepers should meet with a similar mishap, they can try it. I did not know what else to do on account of the pain, and not knowing what the result would be, will Dr. Tinker and others give their opinion regarding the use of soda, and the like, when applied to the eye? Will it prove injurious to the eye?

Three Seasons of Bee-Keeping.—Charles Brown, Drumquin, Ont., on Sept. 7, 1885, writes:

In the spring of 1883 I bought one colony of black bees in a box-hive, and it increased to 10. I doubled 4 back to 2, and wintered 8 of the 10, being packed in chaff. I transferred them at the time of apple bloom, into frame hives. In 1884 they increased to 28 colonies, of which 3 starved during the winter, 2 I sold, and 22 came out all right in the spring. Last spring I bought 2 colonies more, and have increased my apiary to 65. I sold 5, and they are all strong, except one that had a drone-laying queen, which I caught, and then introduced an Italian queen, and now I will have to feed the colony. I commenced extracting on July 6, and finished on July 23, obtaining 2,000 pounds of extracted honey and 100 pounds of comb honey in sections. I Italianized 12 colonies, and nearly all the rest are hybrids. I think that there is no trouble in wintering bees, if they have plenty of honey and are in chaff hives with a 4-inch space filled with chaff, and are on the summer stands.

☞ The 4th semi-annual meeting of the Wabash County Bee-Keepers' Association will be held at North Manchester, Ind., on Oct. 10, 1885, in the G. A. R. Hall, Union Block. First session at 10 a. m. All bee-keepers are cordially invited to be present.
J. J. Martin, *Sec.*

WEEKLY EDITION
OF THE
AMERICAN
ESTABLISHED IN 1861
OLDEST BEE PAPER IN AMERICA
BEE JOURNAL

PUBLISHED BY
THOMAS G. NEWMAN & SON,
PROPRIETORS,
923 & 925 WEST MADISON ST., CHICAGO, ILL.
Weekly, **$2** a year ; Monthly, **50** cents.

ALFRED H. NEWMAN,
BUSINESS MANAGER.

Special Notices.

SPECIAL NOTICE.—On January 1, 1886, the price of the Weekly BEE JOURNAL will be reduced to *One Dollar a Year*. This we have contemplated for some years, and only awaited the proper time to warrant us in issuing the Weekly BEE JOURNAL at the very low price of *one dollar* a year. That time has now come. We shall continue to improve the BEE JOURNAL, and it will maintain its proud position as the leading bee-paper of the World !

New subscribers will be supplied with the Weekly from now until the end of the year 1886, for **$1.25.**

Those who have already subscribed for any portion of *next year* will have the time beyond January 1st doubled. These changes in the mail-list type are already made.

◆

To Correspondents. — It would save us much trouble, if all would be particular to give their P. O. address and name, when writing to this office. We have several letters (some inclosing money) that have no name; many others having no Post-Office, County or State. Also, if you live near one post-office and get your mail at another, be sure to give the address we have on our list.

◆

☞ If your wrapper-label reads Sept. 85, please remember that your subscription runs out with this month. Renew at once.

◆

Bees and Poultry.—But few out-door pursuits go so well together as bees and poultry. Give the poultry the necessary attention in the morning and evening, and give the bees such of the time between as becomes necessary. We have made arrangements by which we can supply the American Poultry Journal (price $1.25) and the Weekly BEE JOURNAL both for **$1,75** a year. This is a rare opportunity to get two standard papers for less than the price of one.

◆

To give away a copy of "Honey as Food and Medicine" to every one who buys a package of honey, will sell almost any quantity of it.

Honey and Beeswax Market.

Office of the AMERICAN BEE JOURNAL,
Monday, 10 a. m., Sept. 21, 1885.

The following are the latest quotations for honey and beeswax received up to this hour :

CHICAGO.

HONEY.—The market is steady at 15 cts. per lb. for white comb honey in 1-lb. sections. Receipts and sales are keeping pace with each other. Some well filled ½-lb. sections, this week, brought 16 cts. Extracted honey brings 5@8c., with a steady feeling prevailing.

BEESWAX.—23@24c. on arrival.

R. A. BURNETT, 161 South Water St.

BOSTON.

HONEY.—There is no change in the market, to speak of. We have had some new Vermont white clover honey in 1-lb. sections, which is very fine. There is a large crop in that State. Prices remain as follows : For 1-lb. seclions, 16@18c. ; for 2-lbs., 14@16c. There is little or no sale for extracted.

BEESWAX.—30 cts. per lb.

BLAKE & RIPLEY, 57 Chatham Street.

NEW YORK.

HONEY.—There is not much change in the market. The new crop is coming in quite freely, and is selling readily at the following prices: Fancy white clover, in 1-lb. sections, 14@15 cents ; the same in 2-lb. sections, 12@13c.; fair to good, in 1 and 2 lb. sections, 10@11c.; fancy buckwheat, in 1-lb. sections, 11@12c.; the same in 2-lb. sections, 9@10c. Extracted, white clover, 6@7c.; buckwheat, 5@6c.

BEESWAX—Prime yellow, 25@28c.

MCCAUL & HILDRETH BROS., 34 Hudson St.

CINCINNATI.

HONEY.—No change has taken place in the general feature of the market. Demand is slow for extracted honey with an abundance on the market. Depression in other branches of business, and low prices have their bearing upon honey. Better prices will, in my estimation, not be obtained until a general revival of business takes place ; our most ardent desires to the contrary notwithstanding. Custom has to be made, even at the short crop of this season. Small lots only of new comb honey make their appearance, and are sold readily. Yet demand is slow in proportion. Extracted honey brings 4@8c on arrival, and choice comb honey 15@16c in a jobbing way.

BEESWAX—Is in fair demand, and arrivals are good. We pay 20@24c for good yellow.

P. S. The following explanation in regard to markets seems to be in order to post some bee-keepers and save them from disappointments. When quoting prices "on arrival," I mean to say that honey will bring *about* the price quoted, or that a figure within the range given, will appear reasonable or acceptable to a purchaser. I quote as nearly as possible the price at which I am buying and selling. I do *not* mean to say that purchasers are waiting for the arrival of honey and are anxious to buy at those prices quoted, nor that I am willing to pay those prices on arrival for all the honey that may be shipped here. This latter would require a larger capital than I and two more of the largest dealers in Americu possess. It is unpleasant for us to be over-run with honey for which I will not pay on arrival, unless agreement has been made previous to shipment.

C. F. MUTH, Freeman & Central Ave.

SAN FRANCISCO.

HONEY.—Arrivals are quite light, with a probability of so continuing through the balance of the season. There is some inquiry for best qualities, with a firm market for the same. Quotations are as follows : White to extra white comb, 9@11c.; dark to good, 5@8c. Extracted, white liquid, 5@5½ cts.; light amber colored, 4½@5c.; amber und candied, 4¼c.

BEESWAX.—Quotable at 23@25c., wholesale.

O. B. SMITH & CO., 423 Front Street.

CLEVELAND.

HONEY.—The new crop is beginning to arrive and is selling at 14@15 cts. per lb. for choice 1-lb. sections. Old honey is very dull—none selling although freely offered at 10@12 cts. Extracted, as usual is not in demand in our market.

BEESWAX.—20@22 cts. per lb.

A. C. KENDEL, 115 Ontario Street.

KANSAS CITY.

HONEY.—Considerable new honey is coming in and is readily taken at the following prices : 14@15 cents for choice 1-lb. sections ; 12@13c. for choice 2-lbs. ; 10½@11c. for choice California 2-lbs. ; and 8@9c. for off lots. Extracted is moving freely at 4@6c. for Miss., La., and Tex. honey ; 5@6c. for good buckwheat and other similar kinds ; 6@7c. for choice white clover and basswood, and for choice California white sage.

BEESWAX.—Slow at 20@25.

CLEMONS, CLOON & CO., cor. 4th & Walnut.

◆

☞ We want one number each of the BEE JOURNAL of August, 1866,—February, 1867.

☞ To create Honey Markets in every village, town and city, wide-awake honey producers should get the Leaflets "Why Eat Honey" (only 50 cents per 100), or else the pamphlets on "Honey as Food and Medicine," and scatter them plentifully, and the result will be a DEMAND for all of their crops at remunerative prices. "Honey as Food and Medicine" are sold at the following prices :

Single copy, **5** cts. ; per doz., **40** cts. ; per hundred, **$2.50.** Five hundred will be sent postpaid for **$10.00; or 1,000 for $15,00.** On orders of **100** or more, we will print, if desired, on the cover-page, "Presented by," etc. (giving the name and address of the bee-keeper who scatters them).

◆

Preserve your papers for reference. If you have no **BINDER** we will mail you one for 75 cents, or you can have one FREE if you will send us 3 new yearly subscriptions for the BEE JOURNAL.

◆

☞ Our rates for two or more copies of the book, "Bees and Honey," may be found on the Book List on the second page of this paper. Also wholesale rates on all books where they are purchased "to sell again."

◆

☞ **Sample Copies** of the BEE JOURNAL will be sent FREE upon application. Any one intending to get up a club can have sample copies sent to the persons they desire to interview by sending the names to this office, or we will send them all to the agent.

◆

The National Bee-Keepers' Union.

MEMBERS RECEIVED SINCE LAST ISSUE.

Camp, C. A.,
Griswold, Fred,
Lanning, Jno.,
Lyman, W. C.,
Ochsner, J. J.,
Payn, W. N.,
Sears, J. W.,
Slade, W. D.,

Advertisements.

HONEY

WE are now in the market, and will be during the entire season, for all honey offered us, in any quantity, shape, or condition—just so it is pure. We will sell on commission, charging 5 per cent.; or, if a sample is sent us, we will make the best cash offer the general market will afford. We will handle beeswax the same way, and can furnish bee-men in quantities, crude or refined, at lowest market prices. Mr. Jerome Twichell, our junior member in this department, has full charge, which insures prompt and careful attention in all its details.

Sample of comb honey must be a full case, representing a fair average of the lot. On such sample we will make prompt returns, whether we buy or not.

CLEMONS, CLOON & CO.,
36A17t KANSAS CITY, MO.

BARNES' FOOT-POWER MACHINERY.

Read what J. I. PARENT, of CHARLTON, N. Y., says—"We cut with one of your Combined Machines last winter 50 chaff hives with 7 in. cap, 100 honey racks, 500 broad frames, 2,000 honey boxes and a great deal of other work. This winter we have double the amount of bee hives, etc., to make and we expect to do it all with this Saw. It will do all you say it will. Catalogue and Price List Free. Address W. F. & JOHN BARNES, No. 196 .. Ruby street, Rockford, Ill.

STRAW FRAME-HIVES.— I want bee-keepers to try these hives, and will deliver the straw part at Express Office here for **$1.50** each; or, with top, bottom and frames, complete, **$2.50.** These are now improved by having two-bands instead of one ABE HOKE, Union City Ind.
38A1t

QUEENS

AT REDUCED PRICES.

OWING to the scarcity of money, I will SELL **Warranted Queens at $8.00 per dozen. Two dozen for $15.00.**

30ABtf **J. T. WILSON,** Nicholasville, Ky.

$200,000 *in presents given away.* Send us 5 cents postage, and by mail you will get *free* a package of goods of large value, that will start you in work that will at once bring you in money faster than anything else in America. All about the $200,000 in presents with each box. Agents wanted everywhere, of either sex, of all ages, for all the time, or spare time only, to work for us at their own homes. Fortunes for all workers absolutely assured. Don't delay. H. HALLETT & Co.

51A1y Portland, Maine.

Muth's Honey Extractor,

Square Glass Honey Jars, Tin Buckets,
Langstroth Bee-Hives, Honey-Sections, etc.

Apply to **CHAS. F. MUTH,**
Freeman & Central Ave., - CINCINNATI, O.

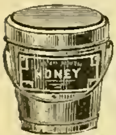
☞ Send 10c. for Practical Hints to Bee-Keepers.

---

60 New Style, Embossed Hidden Name and Chromo Visiting Cards, no 2 alike, name on, 10c., 13 packs $1; warranted best sold. Sample book, 4c. L. JONES & CO., Nassau, N. Y.

11A1y

NEW ONE-POUND HONEY PAIL.



THIS **new size** of our Tapering Honey Pails is of uniform design with the other sizes, having the top edge turned over, and has a bail or handle,—making it very convenient to carry. It is well-made and, when filled with honey, makes a novel and attractive small package, that can be sold for 20 cents or less. Many consumers will buy it in order to give the children a handsome toy pail. **PRICE, 75 cents per dozen, or $5.00 per 100.**

THOS. G. NEWMAN & SON,
923 & 925 West Madison St., CHICAGO, ILL.

Fruit-Farm & Apiary

FOR SALE CHEAP!

96 ACRES, hill-land, ½ well-stocked with apples, peaches, pears, plums, quinces, grapes, and small fruit, in fine bearing condition. The remainder in pasture, grass, grain, etc. Apiary contains **140 ITALIAN COLONIES** in Langstroth hives. Bee-house and all modern appliances for apiculture, in as good location for bees and honey as can be found. Good 10-room house, beautifully located, commanding a view of the city, river and surrounding country. New barn and out-buildings, cistern, never-failing springs, etc. Reason for selling—age and ill-health.

33A6t **S. A. STILLMAN, LOUISIANA, MO.**

ELECTROTYPES

Of Engravings used in the Bee Journal for sale at 25 cents per square inch—no single cut sold for less than 50c. **THOS. G. NEWMAN & SON,**
923 & 922 West Madison Street, **Chicago, Ill.**

W. Z. HUTCHINSON,

Rogersville, Genesee Co., Mich.,

CAN still furnish Italian queens, bred from the best of mothers, and reared in full colonies. Single queen, $1.00 ; six for $5.00; twelve, or more, 75 cts. each. Tested queens $2.00 each. Make money orders payable at Flint. 37Atf

---

Bee-Keepers' Badges at Fairs.

We have some **ELEGANT RIBBON BADGES,** having a rosette and gold Bee, for bee-keepers' use at Fairs, Conventions, etc. Price 50 cents each, by mail, postpaid.

THOMAS G. NEWMAN & SON,
923 & 925 West Madison St., CHICAGO, ILL

Bee-Hives, Sections & Honey-Boxes

GREAT REDUCTION.

DEALERS and large consumers will find it to their interest to write us for special stocking-up prices—either for present or future delivery.

G. B. LEWIS & CO.,
34ABtf WATERTOWN, WIS.

FOLDING PAPER-BOXES,

Bee-keepers who desire to put their honey on the market in the most attractive manner, should use the **Folding Paper Box.** Read what the Editor of this paper says concerning this box, on page 531. Sample box, by mail, 5 cts. Send for circular and prices.

GEO. T. HAMMOND,
35Atf BROCKPORT, Monroe Co., N. Y.

THE INVERTIBLE HIVE!

INVERTIBLE FRAMES,

Invertible Surplus Honey Cases,
Entrance Feeders, Top and Bottom Feeders,
Hive-Lifting Device, Honey Extractors,
Wax Extractors, Comb Foundation, etc.

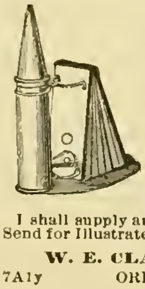
☞ My new Illustrated Catalogue is now ready, and will be mailed to all who may apply for it. Address,

J. M. SHUCK,
DES MOINES, IOWA.

10A1y

A PRIZE. Send six cents for postage, and receive free, a costly box of goods which will help you to more money right away than anything else in this world. All, of either sex, succeed from first hour. The broad road to fortune opens before the workers, absolutely sure. At once address TRUE & Co., Augusta, Maine.

51A1y



Bee-keepers' Supplies,

Standard Langstroth,

Quinby Standing-Frame,

And all other kinds of **Hives,**

MADE TO ORDER,

Quinby Smoker a specialty.

I shall supply anything you need in the Apiary. Send for Illustrated Price List.

W. E. CLARK, successor to L. C. Root,
7A1y ORISKANY, Oneida County, N. Y.

Dadant's Foundation Factory, wholesale and retail. See Advertisement in another column.

Wooden Pails for Honey!

WE can furnish regular Wooden Water-Pails—well painted on the outside, and with 3 iron hoops and a tight-fitting wood cover, at **$2.25** per dozen. They will hold **25** lbs. of honey, and when empty, can be utilized for use as an ordinary household pail.

THOS. G. NEWMAN & SON,
923 & 925 West Madison Street, CHICAGO, ILL.

WIN more money than at anything else by taking an agency for the best selling book out. Beginners succeed grandly. None fail. Terms free. HALLETT BOOK CO.

51A1y Portland, Maine.

Dadant's Foundation Factory, wholesale and retail. See Advertisement in another column

---

BEESWAX.

We pay **20c.** per lb., delivered here, for yellow Beeswax. To avoid mistakes, the shipper's name should always be on each package.

THOS. G. NEWMAN & SON,
923 & 925 West Madison Street, CHICAGO, ILL.

1885. GET THE BEST. 1885.

THE LATEST EDITION OF

THE BEE-KEEPERS' HANDY-BOOK

Contains 300 pages and 100 illustrations. One hundred pages are devoted to queen-rearing, and as the Handy-Book is copy-righted our methods for rearing first-class queens cannot be found in any other publication. The Handy-Book also contains fine likenesses of Rev. L. L. Langstroth and the late Mr. Moses Quinby—the two most noted apiarists of the age. The book and tested Italian or Syrian queen, by mail, $2.00.

36Atf **HENRY ALLEY, Wenham, Mass.**

Vandervort Foundation Mill.

6 Inch, Price, $25.00.

It makes the finest extra thin Foundation for comb honey. For Sale by

THOS. G. NEWMAN & SON,
923 & 925 West Madison Street, CHICAGO, ILL.

HELP for working people. Send 10 cents postage, and we will mail you *free*, a royal, valuable sample box of goods that will put you in the way of making more money in a few days than you ever thought possible at any business. Capital not required. You can live at home and work in spare time only, or all the time. All of both sexes, of all ages, grandly successful. 50 cents to $5 easily earned every evening. That all who want work may test the business, we make this unparalleled offer: To all who are not well satisfied we will send $1 to pay for the trouble of writing us. Full particulars, directions, etc., sent free. Immense pay absolutely sure for all who start at once Don't delay. Address STINSON & CO.

51A1y Portland, Maine

THE BRITISH BEE JOURNAL

AND BEE-KEEPER'S ADVISER.

The BRITISH BEE JOURNAL is published SEMI-MONTHLY, at Seven Shillings per annum, and contains the best practical information for the time being, showing what to do, and when and how to do it.

The British Bee Journal and our Weekly for $2.50.

THE HORSE,

By B. J. KENDALL, M. D.

A TREATISE giving an index of diseases, and the symptoms ; cause and treatment of each, a table giving all the principal drugs used for the horse, with the ordinary dose, effects and antidote when a poison ; a table with an engraving of the horse's teeth at different ages, with rules for telling the age of the horse ; a valuable collection of recipes, and much valuable information.

Price 25 cents—in English or German.

THOS. G. NEWMAN & SON,
923 & 925 West Madison St., CHICAGO, ILL.

BOND & PEARCH.

(ESTABLISHED 1860.)

163 South Water St., CHICAGO,

COMMISSION MERCHANTS!

Make a Specialty in HONEY.

Consignments solicited. Will make liberal advances on shipments. Refer to Hide and Leather National Bank. 7Btf

WEEKLY EDITION
OF THE
AMERICAN
ESTABLISHED IN 1861
OLDEST BEE PAPER IN AMERICA
BEE JOURNAL

THOMAS G. NEWMAN,
EDITOR.

Vol. XXI. Sept. 30, 1885. No. 39.

APICULTURAL NEWS ITEMS.

EDITORIAL AND SELECTED.

The Dew hangs jewels in the heath,
Buds bloom for which the bee has pined ;
I haste along, I quicker breathe,
The night is still, the moon looks kind.

Honey in one-pound sections sells much faster than that in larger packages. It is a neat package, and small enough for any family, and can readily be sold for 25 cents —the popular retail price.

"**How many** kinds of the honey-bees are there in North America ?" asks a correspondent. We now think of but seven : The natives (brown or black), Italian, Cyprian, Syrian, Hungarian, Egyptian and Carniolan.

Mr. D. A. Jones, Beeton, Ont., has sent us a copy of his new Catalogue for the fall Fairs. It contains 16 pages, and enumerates a full list of apiarian supplies.

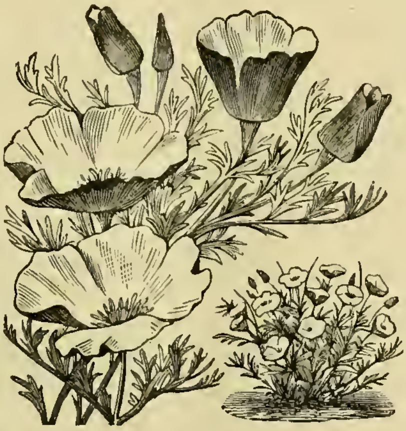
The Present Condition of the bees is very encouraging. The losses of bees last winter are mainly overcome now—and the colonies generally will go into winter quarters in excellent condition. Let us hope for successful wintering and a large crop of honey next year.

The Honey Show at the Michigan State Fair was not quite as magnificent as it was last year—but it was good. Mr. W. Z. Hutchinson was awarded $150 in premiums in the various departments. This must be very gratifying to him, and speaks well of his various exhibits.

The Premium List of the Shenandoah Valley, Va., Agricultural Society is on our desk. The Fair is to be held at Winchester, Va., Oct. 13—16, 1885. There is but one premium for honey, and that is 50 cents, so there will be no display. Mr. E. C. Jordan should try a little missionary work on the directors of that benighted society.

The Query Department has become very much crowded, and so we have given a double dose this week. We have from 30 to 40 queries waiting their turn. This will explain to some of the querists why their questions are not answered earlier. It takes *time* to get them printed, sent out, answered, returned, and then placed in the BEE JOURNAL in the order that they were received.

California Poppy.—To see this plant (*Eschscholtzia*) in "all its glory," one must be in its native home, California, during April and May. There it may be seen in patches of many acres, radiant with its brilliancy of golden-hued flowers. Though as common as the commonest weed, it is highly cherished by the people of the Golden State. Its fragrance is not such as to make it attractive, still its rich color and its keeping fresh for many hours after being picked makes it a favorite with the many as a bouquet flower. The plant is of low growth, the tallest varieties not growing over 15 inches high. We have not heard of more than two varieties being found in its native land ; but Eastern and European cultivators have, by constant care and attention while experimenting with the plant, succeeded in producing several distinct varieties, but it is doubtful if any of them rival the original variety in beauty. To bee-keepers this plant is only a benefit for the abundance of pollen it yields. Though it is in its glory in April and May, it blooms every month of the year. Pollen obtained from it is of a dark orange color. The engraving, which is from Vick's *Floral Guide*, Rochester, N. Y., gives a correct representation of the flowers, but it is rather too much reduced in size ; it should be more spreading and have from 30 to 40 flowers. Those who plant flowers for pollen should have the California Poppy. It is easy to cultivate. The seed may be obtained of James Vick, Rochester, N. Y.



California Poppy—plant and flowers.

A Drone-Trap was sent to us by Mr. E. Nutting, of Kent, O., filled with drones, caught in a short time from one of his Holy Land colonies. The drones were very fine. The trap has several new features. Not a drone can get out of the hive without getting caught in the trap, where they are imprisoned until liberated, and are completely under the control of the apiarist.

"**Don't Stop**"—that is what many write to us about their papers, when their time is nearly out. One subscriber says : "This has been a year of disaster, and it is not convenient for me to send you the money now to renew my subscription. It runs out with this month ; *but don't stop sending it.* I will get the money to you within three months." Such letters are coming every day, and so for the present we have concluded not to stop any papers until requested to do so.

Another Suit — Bees and Grapes.—Gustav Bohn, of San Bernardino, Calif., on Sept. 14, 1885, sent the following to the Manager of the Bee-Keepers' Union :

> A suit has been commenced against me in the Justice Court of this city for $299, for damages alleged to have been done by my bees to my neighbor's grapes during 1884 and 1885. I am a member of the National Bee-Keepers' Union, and desire the aid and assistance of this National organization. I have engaged good counsel, and hope to win the case. Please inform me what assistance I may expect from the Bee-Keepers' Union ?

That question is a poser ! We have just completed arrangements for "a vigorous fight" over the Wisconsin suit, and have expended nearly all the money in the treasury, a little over $230. But we will do all we can—all that our finances will permit ! The great bulk of bee-keepers seem to be *asleep*, and the pursuit is left to care for itself. By this time the membership should have been thousands instead of hundreds ! Then we could show to the enemies of the pursuit that ours were not *idle words*—but that they were to be "backed up" by *dollars and cents* as well as unbounded enthusiasm.

A Honey Pyramid, at the Fair at Ithaca, N. Y., was what the Ithaca *Journal* called the exhibit of Messrs. W. G. Fish and E. W. Landon, two enterprising bee-men of the county of Tompkins, N. Y. Besides an exhibit of comb foundation and machines, making it on the grounds, smokers and other implements for bee-keepers, they had honey extractors at work "turning out" honey, pure and enticing before the eyes o the multitude. The *Journal* adds :

> In their exhibit scientific bee-culture is practically shown and illustrated in detail. Live bees are exhibited in small glass hives, and one may admire the beauty of the Italians, study the economy of the hive, reflect upon the constant industry of the "busy bee," or engage in the fascination of hunting for the queen, all without the least danger of being stung.
>
> Three inventions, namely, the movable-comb hive, the honey extractor and the comb foundation have raised bee-culture out of the well-worn ruts of the past, placed it upon the scientific basis where it now rests, and changed it from uncertain management and guess-work to a certainty, giving complete control of the hive. No one who visits the Fair this year should fail to inspect the bee and honey exhibits.

That is the way to do it. That exhibit has, no doubt, done more good and built up a larger local trade and reputation than they could have acquired in several years.

Unite Weak Colonies, says Mrs. L. Harrison in the *Prairie Farmer*. She states her method thus :

> "If two, three, or more colonies are to be united, choose the best queen, and remove all the others. The frames containing honey should be put together into one hive, and the bees put together and driven in, the surplus queens having been first removed. They will not quarrel, as they have now no home of their own, but accept the condition gratefully. Some days before uniting, the hives should be brought together, and a board or grass put in front of their entrance, so they would mark the location. A few days after the bees have been united, if any of the remaining comb contains honey, it should be uncapped and placed in the upper story, and a little opening given in the honey-board or muslin, so the bees can come up and carry the honey below. When the combs are emptied of honey, the frames should be stored away carefully for another season, when they will be worth more to their owner than money in the bank."

QUERIES

WITH

REPLIES by Prominent Apiarists.

Uniting Nuclei and After-Swarms.

Query, No. 117.—What is the best way for doubling up, or uniting, two or more nuclei, or after-swarms, in the fall, preparatory to wintering? When is the best time to do it?—C. G. B.

By using the cage-plan which I gave for forming nuclei, on page 277 of the Bee Journal for this year, and as described by me on page 344 of the Bee Journal for 1884, when I was uniting nuclei. The best time is the last of this month (Sept.), or the first of next.—G. M. Doolittle.

Have all the nuclei that are to be put into one hive, queenless, excepting one. Carry the combs with the adhering bees and hang them in the hive that has the queen. The best time is after a few days of cool weather, just as it begins to warm up.—W. Z. Hutchinson.

I unite a large number of nuclei every fall. Let the nuclei be queenless (all but one) three or four days, then just before sunset unite them—combs, bees, and all. They never fight one time in twenty. If you want to reduce the brood-nest it can be done afterwards. I usually unite them as soon as I have no use for the nuclei, and never later than the first killing frost.—G. W. Demaree.

It is best to unite them just as soon as surplus storing is over, if not before. I have united bees satisfactorily by taking the queen from one hive a day or so before the union, and then putting the frames together in one hive.—Dr. C. C. Miller.

Do the work as early as convenient. If your bees will not unite peaceably by mixing up the bees and combs as you place them in their permanent hive, spray them with water scented with peppermint essence.—James Heddon.

In doubling up nuclei or swarms, I wait until near evening and then unite them, without smoking or perfuming, alternating the combs. But the queen to be given them should always be caged 24 hours, or until the bees cease to "ball" the cage. If they start queen-cells, destroy them, and they will soon cease to "ball" the cage. There is always less disturbance to the bees to unite towards evening, when during the night they will get settled and go right to work in the morning.—Dr. G. L. Tinker.

Bring the hives gradually together if practicable in the first place, if not, unite without so doing. I then remove the least valuable queen, and one-half the frames from one hive; I take one-half the frames from the other, and place them in a new hive interchangeably. This mixes the bees up to such an extent that they have no disposition to quarrel. The bees remaining in both hives I mix together, and then allow them to run into the hive containing those first moved.—J. E. Pond, Jr.

I do it as soon after the first hard frost as the weather will permit. By moving them a few feet each day, I get the nuclei close side by side. I then smoke both thoroughly, mix the frames, and shake the bees in front. I do not think this last is often necessary. They will usually unite kindly by simply placing the frames in the hive alternately without removing the bees at all.—Prof. A. J. Cook.

* * *

Replacing Aged Queens.

Query, No. 118.—How should I proceed to replace queens that are past their useful age?—L. L. T.

Let the bees do it themselves, as they always will if there is Italian blood in them.—G. M. Doolittle.

Remove them from the hive, and introduce others.—James Heddon.

Kill them, and introduce young, laying queens.—W. Z. Hutchinson.

Kill the queens and introduce new ones according to the methods well known, and described in all the bee-books.—Prof. A. J. Cook.

I would not replace them unless I wanted to change the breed of bees. The bees will make fewer mistakes if the matter of superseding queens is left to them, than the smartest bee-keeper in the land. If I had a queen that failed to fill her combs at the right time with eggs, I would remove her and introduce another in her place.—G. W. Demaree.

One way is to destroy the old queen in the midst of the honey harvest, and put into the hive a frame of brood, bees, laying queen, and all, from a nucleus. If your experience is limited you can let the bees do their own superseding.—Dr. C. C. Miller.

Late in the season the best plan, and a very safe one, too, is to take out the old queen, and in nine days cut out the queen-cells, shaking the bees from the combs, so that none are overlooked, and introducing a queen by caging her, taking care before liberating her that the bees do not "ball" the cage. Another precaution is to always let the cage down among the bees.—Dr. G. L. Tinker.

Remove the old queen in the forenoon of a pleasant day, and at night, after the bees have all returned home, give them a little smoke, and when they are filled with honey allow the new queen to run in at the entrance. I do not open the hive for 3 or 4 days, and have never yet made a miss of it.—J. E. Pond, Jr.

* * *

Prevention of Swarming.

Query, No. 119.—To-day (July 19) I have had two new colonies that have swarmed, both having commenced to work in the boxes; one was hived on June 6, and the other on June 18. Is it common for new colonies to swarm? Can it be prevented?—Madison Co., N. Y.

I have never had but one or two such cases. Any means tending to prevent ordinary swarming can be used to prevent this.—Dr. C. C. Miller.

Yes, new colonies quite frequently swarm, especially if their queens are old or have their wings' clipped. To prevent it, use the same measures you would to prevent swarms from any colonies.—James Heddon.

In my locality early swarms are very likely to swarm again if the season continues good for some time after they are hived. You can cut out the queen-cells and return the bees with a better show of success than you can with the early swarms, because there is not so much of the honey season before you.—G. W. Demaree.

This is quite common with me, with very early swarms, and not easily prevented. The best way is to prevent early swarming by taking bees and brood from the strongest colonies the last of May.—G. M. Doolittle.

This is not very common. It can be prevented, but that may cost more than it is worth.—Prof. A. J. Cook.

It is not very uncommon for prime swarms to swarm again, with some systems of management. Give plenty of surplus room, shade and ventilation.—W. Z. Hutchinson.

To both questions I answer no. Colonies of bees are liable to swarm at any time when they get strong in number, and the flowers are full of nectar.—Dr. G. L. Tinker.

It is not common for new colonies to swarm, but swarms will issue when the "fit" seizes them. I do not know of any sure plan to prevent swarming. Giving plenty of room is the surest, but that will fail sometimes. The "Heddon" plan (so-called) is perhaps as good as any to prevent new colonies from swarming.—J. E. Pond, Jr.

* * *

Fertilization of Queens.

Query, No. 120.—Do queens of second swarms "mate" before or after they lead out the swarm?—T.

After.—James Heddon.

After, never before; sometimes when out with a swarm.—G. M. Doolittle.

Usually after, but they possibly may before, under certain peculiar conditions.—Prof. A. J. Cook.

After.—W. Z. Hutchinson.

Perhaps before, but generally after. When they swarm before mating, the swarm often leaves when the queen takes her "wedding trip," and such swarms are usually difficult to stop. In fact it does not pay to try to detain them unless you kill the queen and return them to the mother hive.—Dadant & Son.

They mate after they are established in their new home.—G. W. Demaree.

After, in all cases. A second swarm issues before the young queen has had a chance to make her "wedding tour." If the second swarm from a parent colony does not issue till after the young queen "mates," it will be a prime swarm, although not the first one issuing in point of numbers.—J. E. POND, JR.

I have never known queens to mate until after they had led out a swarm. In 3 or 4 days the bees, on some pleasant afternoon, will fly out in great numbers, when the queen may be seen to leave the hive to "mate."—DR. G. L. TINKER.

◆

Drones and Worker Eggs.

Query, No. 121.—1. Can bees form or rear drones from eggs in worker-cells? Or can they *make* a drone out of a worker-egg? If they cannot, how do they know that a worker-egg will not produce a drone?

2. Are all drone eggs unfertilized? Is this accomplished by the "will" of the queen, or by the size of the cell?—T. F.

Drone eggs in worker cells produce only dwarf drones. Worker eggs never produce drones, as far as my knowledge goes, even when laid in drone cells.—G. M. DOOLITTLE.

Bees *can* rear drones in worker cells, and workers in drone cells; hence, the size of the cell has nothing to do with the fertilization of drone eggs.—W. Z. HUTCHINSON.

Bees can rear drones from eggs in worker cells, but the eggs will be what are called drone eggs. They cannot make a drone out of a worker egg. No one can answer the second part of the query, but it is a fact that drones when produced in worker cells are always drone capped or sealed. All drone eggs are unfertilized, and this is accomplished by the will of the queen if she is fecundated. If not, she has no choice in the matter. If T. F. will carefully read the "Dzierzon Theory," this whole matter will be made plain to him.—J.E.POND,JR.

Bees can, and sometimes do, rear drones in worker cells, but such drones are quite small, comparatively speaking. No; they cannot make a drone at all; nor can they rear a drone from a worker egg. They have no need of knowing anything. They are guided by innate force which serves them every purpose. Eggs from which drones hatch are not fertilized in the same sense, nor in the same way that worker eggs are; though some of us believe that the male-producing eggs of the mother honey-bee are fertilized by some process in nature not yet discovered.—G. W. DEMAREE.

1. Yes, they often do. 2. They never make a drone from a worker egg. I do not suppose that they do know. They probably expect a worker from every worker-cell, and usually are not disappointed. Occasionally they are fooled. Young queens often lay unimpregnated eggs—a few—in worker-cells. They have not learned their work thoroughly as yet. 2. Yes, by the will of the queen.—PROF. A. J. COOK.

1. Yes, dwarf drones. I do not know whether they could remove the fecundating matter from an egg or not. 2. I think the queen governs it by her will.—JAMES HEDDON.

Drones can be reared in worker-cells provided the drone-egg is laid in it, but it is as impossible to make a drone out of a worker-egg as it is to make a rooster out of a hen. The drone eggs are unfertilized. The sex may be made by the queen at will, but it is more likely to be caused by the position in which she is placed when laying. Whether the queen "wills" it or not, is a theory which is is not yet proved either way.—DADANT & SON.

1. No, not unless the eggs should happen to be drone eggs. Bees cannot "make" a drone from a worker egg, and I do not think they know one egg from another, except as it is found in a drone or worker-cell, but they know a drone larva from a worker larva always, as indicated by the way the cells are sealed up. 2. I am fully satisfied that the continued presence of the male elements in the queen's spermatheca does have an influence on the unfertilized eggs of the queen, as well as upon her whole career. A fully developed unfecundated queen never acts any differently from a laying worker. The fertilizing of the eggs is done by the will of the queen.—DR. G. L. TINKER.

◆

Bees Working in Upper Stories.

Query, No. 122.—Would hanging a frame of brood and honey "up-stairs" in a Simplicity hive, taken from the lower story, get the bees up and to work more quickly? I use full wired frames of foundation.—T. F. K.

Yes.—DR. C. C. MILLER.

Yes; but do not do it until the strength of the colony will admit of it.—G. M. DOOLITTLE.

Yes, undoubtedly.—DADANT & SON.

I think it does often aid materially.—PROF. A. J. COOK.

The bees will follow their brood "up-stairs" every time, but it does not appear to get them to work more quickly as to start comb-building in sections more readily, than by some other methods.—DR. G. L. TINKER.

Yes, it will as a rule, unless the weather is too cold. This plan is often adopted for this purpose, but it is advisable to use a perforated-zinc honey-board or a queen-excluder of some kind, else she will go "up-stairs" and deposit her eggs there, and thus injure the surplus honey.—J. E. POND, JR.

Yes, it would in many cases; but I consider it too much manipulation for the advantage gained, if it *is* an advantage. Usually, when the bees are strong in numbers, and honey is coming in, they will store it in the surplus apartment without any coaxing, unless there is room to store it in the brood-nest.—W. Z. HUTCHINSON.

Bees instinctively adhere to the brood, hence the theory that the presence of brood will set the bees at work in the surplus department. If there was any difficulty in getting bees to work in the surplus department when there is anything for them to do, it would be worth while to talk about a remedy; but if there is honey in the flowers, and the brood-nest is full of brood, or brood and honey, you would find it a difficult matter to keep the bees out of the surplus department if you wanted to exclude them.—G. W. DEMAREE.

That is what we are told by some apiarists who manage in such a way as to need some inducement to bring the bees above. With good average queens, a good strain of bees, proper size and shape of brood-chamber, right communications to the surplus receptacles, bees will, without any artificial inducement, begin in the surplus department just as soon as the secretion of nectar will yield any surplus.—JAMES HEDDON.

CONVENTION NOTES

☞ The Maryland, Virginia and West Virginia Bee-Keepers' Association will meet in the Court House at Hagerstown, Md., on Wednesday, Oct. 21, 1885, at 10 a. m.
D. A. PIKE, *Pres.*

☞ The Southern Illinois Bee-Keepers' Association will hold a meeting in Duquoln, Ills., on Thursday, Oct. 1, 1885, at 10 a. m. All are invited. F. H. KENNEDY, *Sec.*

☞ The Union Bee-Keepers' Association of Western Iowa will meet on Friday, Oct. 2, 1885, at Dexter, Iowa. All bee-keepers are cordially invited to be present.
M. E. DARBY, *Sec.*

☞ The Progressive Bee-Keepers' Association, of Western Illinois, will meet at Macomb, Ills., on Thursday, Oct. 15, 1885. Let everybody come and have an enjoyable time. Good speakers are expected.
J. G. NORTON, *Sec.*

☞ The New Jersey and Eastern Bee-Keepers' Association having accepted an invitation to meet with the Mercer County Board of Agriculture, of Trenton, N. J., will hold their semi-annual convention in the Grand Jury Room of the Court House at Trenton, N. J., on Thursday and Friday, Nov. 5 and 6, 1885, at 10 a. m. A full attendance of the members is requested. To all persons interested in our vocation, we extend a cordial welcome. The committee of arrangements have secured hotel accommodations at reduced rates.
WM. B. TREADWELL, *Sec.*

☞ The Western Bee-Keepers' Association will hold its fourth annual meeting in Independence, Mo., on Thursday and Friday, Oct. 15 and 16, 1885. The Association will endeavor to make this the most interesting meeting yet held, and will spare no pains within its means to make it valuable to all. Several of our most prominent bee-keepers have signified their intention to be present.
C. M. CRANDALL, *Sec.*

☞ The 4th semi-annual meeting of the Wabash County Bee-Keepers' Association will be held at North Manchester, Ind., on Oct. 10, 1885, in the G. A. R. Hall, Union Block. First session at 10 a. m. All bee-keepers are cordially invited to be present.
J. J. MARTIN, *Sec.*

☞ The Central Michigan Bee-Keepers' Association will meet in the Pioneers' Rooms in the State Capitol, at Lansing, Mich., at 9 a. m., on Nov. 12, 1885. All who have bees or are interested in bee-culture, are invited to attend. E. N. WOOD, *Sec.*

CORRESPONDENCE

Explanatory.—The figures BEFORE the names indicate the number of years that the person has kept bees. Those AFTER, show the number of colonies the writer had in the previous spring and fall, or fall and spring, as the time of the year may require.

This mark ⊙ indicates that the apiarist is located near the centre of the State named: ♁ north of the centre; ♀ south; O+ east; +O west; and this ♂ northeast; ⌐O northwest; O⌐ southeast; and ♀ southwest of the centre of the State mentioned.

For the American Bee Journal.

Observations upon Drones.

REV. L. L. LANGSTROTH.

Bevan says that the drone hatches on the 24th or 25th day after the egg is laid. I knew of nothing more definite on this point.

To get more precisely the facts, on the 16th day of last July, a drone-comb was put, at 7 a. m., centrally in a strong colony, which had been fed for several days, as the drones were being expelled from many hives. At 9 a. m. the queen was found on that comb, having laid three eggs. She had just begun laying. At 9 a. m., on July 17, it was removed to a strong colony, without queen, eggs or larvæ. On July 27, many cells were capped, and on July 28, at 2 p. m., some 200 were capped, many eggs having, for some cause, disappeared. On Aug. 9, none had hatched. On Aug. 10 examinations were made every hour. At 5:30 p. m. none had crawled out; at 6:30 two had hatched, and a third was hatching. If these drones came from the first eggs laid, they took about 25 days and 8½ hours to develop.

At 6 a. m., on Aug. 11, many more had hatched, and at 6 a. m., on Aug. 12, all but 17 had hatched. At 6:30 p. m. all but 2 had hatched, and at 6:30 a. m. of Aug. 13, the last one was found with the cap off, trying to crawl out; it was strong and perfect. Now if the egg producing this drone was laid just before the comb was removed, then it took nearly 27 days to mature.

During the whole time of these observations, the weather was of the most favorable kind—the thermometer ranging nearly every day above 80° Fahr., and being only once as low as 62°. The colony was kept in good heart by daily feeding, and I can think of nothing which could have retarded in the least the development of these drones, unless possibly the fact that from so many of the eggs having disappeared, they were not as compact in the comb as they otherwise would have been. In this observation, although there could not possibly have been more than 24 hours difference between the laying of the first and the last egg, there was about two days and a half between the hatching of the first and the last drone.

It is quite interesting to watch the different actions of just hatched workers and drones. The worker, true to her name and office, begins to crawl over the combs as if to feel her legs, stops occasionally to clean herself up, and before long helps herself to honey from an open cell. The drone, on the contrary, is a born dependent. The first act is to touch the nearest worker he can reach with his flexible antennæ, and, begging to be fed, he is at once supplied with honey disgorged from the proboscis of his attentive nurse. And so he goes on all his life, seeming to prefer to be fed, although perfectly able, if needs be, to help himself.

A very bad name has always been given the drone. Virgil has his fling at him, stigmatizing him as having no proper office in the economy of the hive—seeking only to devour the stores which he had no share in collecting. I wonder what the poet thought he was made for! or as he says that the bees collected their young from the flowers, being too chaste to breed them, what motive he could have thought they had to gather in such useless consumers! And yet without any special pleading how much can be said in his defense. It is only too evident that his proboscis is too short to suck honey from the flowers; that his legs have no pollen baskets; and that he can secrete no wax. Great as his bulk is, he has no sting, and can do nothing for the defense of the commonwealth; but then, without him that commonwealth could have no existence. The sole object of his life seems to be, at the proper time, to fertilize the young queen—and this he is always ready to do. Now why should we blame any creature which fulfills the special object of its creation? And yet I fear that in spite of all that can so justly be said in his favor, our poor drone will always be cited as an incorrigibly idle reprobate, who meets with only his just deserts when after a life of pleasure he is killed without mercy by the industrious workers. He will always be known as Shakespeare's "lazy, yawning drone."

Oxford, ♀ Ohio.

For the American Bee Journal.

That "Hint," the Season, etc.

JNO. A. EMISON.

The most timely editorial hint to correspondents, on page 547, needs to be republished. It is as follows: "Do not write any more on subjects so stale and 'worn out' as are 'pollen,' 'diarrhea,' and the like." "So be it," saith one of the attentive and interested readers of the BEE JOURNAL.

At the date of my last report, on page 347, we had a most flattering prospect for a very heavy yield of honey. Though two weeks later than usual, the bloom of the horse-mint was most profuse, and thousands of acres of it surrounded my apiary, but alas! just as my bees began their busy work, we had a cold, wet spell of two weeks duration. The colonies in my apiary were much weaker the last of May than they were the first, and with their stores consumed. However, when the warm, spring-like weather came again they went to work with a will. Their time of work on the mint was shortened by a drouth following the wet spell.

I have extracted some 1,600 pounds of honey, and have taken 200 pounds of comb honey. I work my apiary for extracted honey alone. I will have more to extract soon. I have increased my number of colonies to 103—all in fine condition.

The position assumed by one of the correspondents of the BEE JOURNAL, in one of the May numbers, although running contrary to the seemingly universal theory as taught in all my bee-books, I accept it as most plausible. The position assumed was, that the queen was not fertilized for life, but subject to re-mating. This is not the exact language, but the substance of that used by the correspondent. I have witnessed time and again the flight of mature queens. I was rather astonished, for I had been taught that the queen never leaves the hive except for fertilization and swarming, and here were fully developed queens leaving the hive. Why? I now have colonies deeply Italianized that were in the spring as black as night. Were these queens re-mating or superseding?

I am much interested in the discussion of deep and shallow frames. From my short experience I am inclined to the deep frames, especially in the brood-chamber. Why? Because I find that my colonies in hives framed with the Quinby frame are much stronger than those with the Langstroth, and the yield of honey is much greater. With me that is the test of superiority.

Mission Valley, ♀ Texas.

For the American Bee Journal.

An Electric Entrance-Regulator.

FRED C. SMITH.

During the time that I have been keeping bees, I have often thought that if I could keep them during the winter on the summer stands, below a certain temperature, I would not need to fear loss of bees from starvation with plenty of honey in the hive, or from bee-diarrhea. In the summer of 1884, I completed my instrument, and fixed it to a hive having eight frames, not making any choice whatever, for it was the experiment I was after, and it does me good to think how well this colony came through the last terrible winter, while the rest on all sides suffered. I lost 3 colonies by starvation with plenty of honey in their hives.

This instrument is nothing more than a thermometer with an iron wire blown into the bulb, reaching through the glass so that it will come in contact with the mercury; and a longer iron wire is to be used to reach through an air-tight stopper in the top of the tube. The thermometer is to be mounted upon a slat of wood painted white, and the scale of the thermometer copied on the slat of wood so that it can be read from the outside of the hive without disturbing the bees. The wire reaching through the top of the tube should be long enough so that when moved up or down both ends will have to point to the same degree. If the lower end is even with, say 50, the upper end of the wire will have to be even with 50 on the slat on the outside of the hive.

This instrument can be used for finding out the correct temperature inside of the hive, or for a ventilator both for out-door or cellar wintering, by connecting a battery of two cells of Le Clanche batteries with the wires of the thermometer. The wire from the positive pole should be connected with a binding post of an electric bell, and a second wire connected with the other post from there to the long wire of the thermometer. The lower wire is connected with the negative pole of the battery, and the upper wire is to be drawn up and set even with any degree one wishes. Whenever the mercury reaches that degree at which the wire is set it connects with the wire in the tube, and the circuit is closed, and the bell will ring. By this means the correct temperature in the hive is secured by drawing the wire up or down; this can be done without disturbing the bees.

To keep the inside of the hive below a certain degree, I used an electro-magnet instead of the bell, the armature of this magnet being placed so that it would regulate the size of the entrance, their being a sheet-iron shutter 7 inches long and ⅝ of an inch wide hinged to the hive and connecting with the armature of the magnet, so as to work freely. The entrance to this hive was 12 inches by ⅜, and I set the wire at 70 on the slat, and left it that way all winter until March 1, when I raised it to 95, and removed it from the hive on April 9. Now, at 70 above, this shutter would open two or three times per day, and every time it opened the entrance would be ⅜x12 inches, which would remain open from 10 to 15 minutes, when the mercury would leave the iron wire, the magnet would become demagnetized, and the armature with the shutter would drop back again, leaving an entrance ⅜x5 inches; and so on every time the mercury would reach 70.

I do not call this upward ventilation, for above the frames I had good, warm packing, and there could have been no draft through the hive. This colony was very quiet during the winter, and had it not been for seeing the iron shutter moving, I would have been very uneasy about them. I would often look into the entrance to see if dead bees would get clogged behind the shutter, but I found none, and in fact I found only 49 dead bees on the bottom-board by March 1. My opinion is, if this entrance-regulator had not been attached to this hive the bees would have suffered with the rest of the bees in the apiary. This colony surely clustered better than did the others, for it never got warm enough for them to spread over the combs. This, I think, was what kept them so quiet, and accounts for the small loss of bees.

The cause of so many dead bees being found on the bottom-board was mainly brought about by the cluster spreading during a rise of temperature in the hive, and if the temperature should drop very suddenly, as is frequently the case, then there will be plenty of chilled and dead bees on the bottom-board. Some say they are old bees, and their time of life is up. I find this all wrong, to some extent, for I have often scraped bees from the bottom-boards which showed no sign of life; but upon taking them into a warm room they would revive. This proves that they chill and drop to the bottom-board and die while there; but the 49 dead bees I found in this hive were actually old bees. Why did I not find young bees among them? and why so few dead ones? They must have clustered well, and when they moved they all moved in a body and kept within the cluster, and could not have spread much, or I would have found more on the bottom-board.

I will again try this experiment the coming winter, and report the result in due time.

Aurora, ⚲ Ind.

For the American Bee Journal.

Discussions, Black Bees, etc.

15—C. A. CAMP, (31—46).

It is perhaps unfortunate that most apiarian discussions assume personal mention, as "his" hive, book, feeder, frame, and last, and worst of all, "his" theory.

One of the last subjects for discussion is the "contraction system" as practiced by Messrs. Doolittle and Heddon. It is, no doubt, detrimental to any colony so treated, because the bees are not allowed to go as Nature taught them. A colony confined on 4 to 6 frames, and forced to put their honey above or at the sides, and not allowed sufficient breeding-space, comes out at the end of the honey season a small colony, not fit for the winter—and is like cramped Chinese feet—all out of shape. Two or three such colonies must be united to make one of good size, as regards numbers; and I venture to assert that each individual bee is cramped in its vitality to withstand a severe winter.

Also, these colonies must be fed, and they are set to work near winter, or late in the fall, to store for themselves, and some of these sugar-fed colonies have much of their stores uncapped. After the honey harvest, bees should rest, and save their strength for the preparations of the winter. Mr. A. I. Root tried to compel one colony to do the storing for a whole apiary, the frames being removed when filled, and their places supplied with others, but the project failed. The reader is left to draw his own conclusions.

Now, how successful are Messrs. Doolittle and Heddon, in wintering their bees? In 1880 Mr. Doolittle had 112 colonies, and last spring he had only 50 colonies left, having sold some. The other advocate of contraction, is said to have expended $700 for bees with which to "re-stock his apiary," last spring.

Deep and shallow frames must always be talked about. Who are among the successful apiarists of the world? Capt. E. J. Hetherington of New York, is one of them. In one year he is said to have sold $25,000 worth of honey. Bee-keepers, Mr. Hetherington's frames are deep ones, being 10½ inches in depth. Mr. Chas. Dadant says that bees winter better on deep frames than on shallow ones. We should follow those who are successful, if we follow any at all.

Another point is to prove the German bees the best. Among the advertisements in the back volumes of the BEE JOURNAL, Mr. Johnson charged $1.50 and upward for Italian queens, and Mr. J. sold many bees; but finally he changed his base and began Germanizing his bees, and he has at the present time over 150 colonies of good honey-gatherers, and says that producing honey is more profitable than queen-rearing. Still Mr. J. keeps a colony or two of the Holy Lands and Cyprians to test them by the side of the German bees. He also has a $5 queen from a well-known apiarist to see how her colony would perform, and the end of the season gives this report: "Black bees are a long ways ahead." A prominent bee-keeper says: "It seems to me that the black bees winter the best."

Painesville, ☌ Ohio.

The Ohio State Convention.

The bee-keepers of Ohio met at the State Fair Grounds, and assembled at 9:30 a. m. on Thursday, Sept. 3, 1885, in the room over the Apiarian Hall. Mr. A. I. Root, President, called the meeting to order.

Dr. Besse introduced the subject of "Bees Trespassing."

He cited the case of a Wisconsin farmer who had brought suit against a bee-keeper whose bees, he claimed, trespassed on his clover fields. The Doctor said: "I do not think that bees ever trespass. I think it preposterous for a man to sue for bees' trespassing. Bees are an advantage to all farmers, by assisting nature in the fertilization of flowers."

C. E. Jones: I never had any complaint, and I think them a blessing.

A. I. Root: In my opinion, nothing can be made out of the case.

Secretary: In our town a neighbor complains of bees trespassing in the kitchens, and of eating their grapes.

A. Benedict: Some people think that bees puncture grapes; but this is a mistake. They work on grapes after wasps and other insects having strong mandibles, puncture them. They never injure sound fruit.

President: I have several hundred grape-vines right over my hives, and the grapes are never injured by the bees.

Dr. Besse: Bees will never injure the tender Delaware grape, unless the skin is first ruptured. Bees are a benefit to corn-growers.

A. Benedict: After grapes are bursted they soon rot any way, and might the bees not as well get the sweet from them as to let it waste? Bees are a benefit to all fruit-growers.

Dr. Besse: Fruit-growers ought to be thankful for the bees. If there were no bees there would be little fruit.

President: A Massachusetts fruit-man once compelled a bee-keeper to remove, because he claimed that his bees injured his fruit. A trial of several seasons without the bees was a failure, and the bee-keeper was prevailed upon to come back.

ARE CIDER-MILLS INJURIOUS TO BEES?

A. Benedict: I am satisfied that cider-mills are injurious to bees.

C. E. Jones: I lost 73 colonies, which had plenty of clover honey; the cider that they carried in killed them. I had better have spent $100 in screening the mill.

President: As a means of harmony, I suggest that bee-keepers furnish some kind of screen to keep out the bees. We furnished one for a neighbor cider-maker which kept out flies, etc., as well as bees, and cost only $2.

It was decided that the President appoint a committee to see that a suitable building be erected by the Agricultural Society of the State, on the new Fair Ground, for the use of bee-keepers, as a place of exhibition and meeting. Dr. Besse, Delaware, chairman; C. E. Jones, Delaware, and Aaron Benedict, Bennington, were appointed a committee.

It was next proposed to have the Ohio Agricultural College take up apiculture as a branch of study. The President said he thought the college ought to take such measures, and that it would elevate bee-culture in our State. It was decided that a committee be appointed to confer with the directors of the Agricultural College, to have a station of bee-culture established there.

"What is to be the object of this department?"

Dr. Besse: The object is to test for best bees, best methods of management, to report from time to time, and to educate students in bee-culture.

The committee appointed were Dr. Besse, chairman; J. W. Newlove, W. Oldroyd, Dr. Mason, A. I. Root, Chas. Muth, Dan White.

PROPER SIZE OF COLONY TO WINTER.

Dr. Besse: I think that too many bees do not winter as well as a small colony.

A. Benedict: I cannot quite agree with Dr. Besse. I want a large colony of bees; a small one will eat much more honey in proportion to its size than a large one, to keep up animal heat.

C. E. Jones: My experience in this: Get a colony in as nearly a natural condition as possible—large, and plenty of honey.

"How many bees are necessary for such a colony?"

Dr. Besse: About 3 pounds.

Mrs. Culp: I do not care for such large colonies. I do not stimulate them in the fall, for I am satisfied that small colonies are the best. I winter my bees in chaff hives, and stimulate them in the spring.

Dr. Besse: Winter half the bees, and extract and sell half the honey.

President: Dr. Besse and Mrs. Culp may be right, but I think there ought to be caution used here in the use of terms. A large colony will sometimes contract in cool weather to the size of a popcorn ball, and winter well.

Dr. Besse: If you stimulate bees in the fall, feed early enough so that young bees can have two or three flights before they cluster for winter.

WHEN TO FEED BEES FOR WINTER.

Dr. Besse: Any time—the sooner the better.

President: I have the best results by feeding gradually. Feed, say ½ of a pound every night, and during September if possible.

Mrs. Culp: I think my plan of putting away full combs, and giving them to the bees in the fall, is the best plan.

Dr. Besse: We should throw out the uncapped honey before putting bees into winter quarters.

"How many combs of honey are necessary to winter a colony?"

Dr. Besse: Twenty-five pounds of honey.

President: Five full combs.

BEST HONEY LOCALITIES IN THE UNITED STATES.

Central Ohio, California in a good season, Florida, and the basswood locality of Wisconsin and Michigan were named.

Dr. Besse: Ohio extracted and comb honey, taken by me to the Exposition at New Orleans, took the first premium.

A Stranger: Hardin county is as good as any county in the State, for honey.

Mrs. Culp: Franklin county is a good locality. I tested one colony, and took 252 pounds of extracted honey.

Adjourned until 2 p. m.

AFTERNOON SESSION.

The subject of "Moving bees during the working season," was taken up.

Dr. Besse: Move 5 or 6 colonies every evening. After the bees are all in the hives, place the hives far enough apart so as to put others between them when moved the next evening. Place a board, or three or four sticks of stove-wood, in front of the colony moved. I moved 100 colonies 250 or 300 feet, and very few bees, if any, went back, and they were caught in nuclei hives on the old stands. I would advise moving the strongest colonies first, then the returning bees would re-enforce the weaker ones left.

A. Benedict: When putting bees out of the cellar, be sure to put the hive on the old stand.

Dr. Gordon: I have no trouble in moving bees short distances, and I do not think it makes any difference whether we put the bees on the old stand when taken out of the cellar or not.

Mrs. Culp: I put my bees further apart last fall, and saw no bad result. I was trying to see if I could make them do as I wanted, and I did.

Dr. Gordon: I winter my bees out-of-doors, with corn-fodder placed around them, leaving an opening on the south side, so the bees can fly on warm days. I move them together and set them on scantling two tiers high.

Mr. Morris: I wintered my bees successfully in a bee-house for three years. I never put them out-of-doors for a flight when they are quiet. The house has a brick foundation, double wall, 1 foot of space filled with sawdust, and 1 foot of sawdust on top, with cement floor.

President: In regard to cellar-wintering, there is a diversity of opinion and experience. Chaff-hives seem to be the most practicable, with the variable winter weather we have in Ohio, and public opinion seems to be getting in favor of them.

A. Benedict: Bees need more ventilation in winter than in summer.

President: My practice is to leave the entrance open full width all winter.

Mr. Goodrich: I prefer cellar wintering, and I keep the temperature of the cellar as near the freezing point as possible, and think it best.

Dan White: I think the cellar, with an experienced bee-keeper, the best place to winter bees, although I winter my bees in chaff hives out-of-doors. I lost half of my bees last winter.

C. E. Jones: The cellar is a good place to winter bees, if properly prepared.

President: The cause of last winter's losses was poor stores and severe weather.

SPRING DWINDLING.

Mr. Morris: Our spring losses were caused by there being too few young bees when they were put into winter quarters.

Dan White: The cure is, plenty of young bees.

President: There is some mystery about "spring dwindling." A colony "dwindling" seems to get discouraged, and will not even gather pollen. I am sometimes inclined to think it a disease of some kind, and may be contagious, affecting whole apiaries, and missing others in the same locality. A disastrous winter is a benefit, in one way, by making a demand for bees and honey.

THE USE OF SEPARATORS.

Dr. Besse: I do not use separators, and I think it is better without them.

Secretary: I have abandoned them. To get the nicest and straightest combs, use 1⅜-inch sections; such a section, 4½x4⅝, will hold a pound, and you can have as many rows of sections as you have brood-frames—the frames being spaced 1⅜ inches. I reverse the sections.

A. Benedict: I use 1½-inch sections with no separators.

It seemed to be generally understood that all could dispense with separators by using narrower sections.

Adjourned to meet in Sec. Chamberlain's office, in the State House, at 7 p. m.

EVENING SESSION.

The question was asked, "Which is preferable, natural swarming, or dividing colonies?

Dr. Besse: I would rather divide three colonies than hive one natural swarm. By division one has complete control of the bees. I rear early queens from the best stock, and get early drones by inserting a drone-comb in the centre of a full colony. When a colony indicates swarming, I divide it, putting the old queen on the new stand, and the new queen on the old stand.

C. E. Jones: I am in favor of natural swarming. I also reared early queens. I make two swarms out of a large one. I think it more natural for them to swarm.

Secretary: I let my bees swarm naturally, or I divide them, according to the circumstances and conditions of a colony at the time. No general rule can be laid down. It may be best to divide one, and best to leave another to swarm. One must learn to determine by experience. I clip my queens' wings.

Mr. Pierson: I prefer natural swarms. I also clip my queens' wings.

President: Where you desire increase, divide; if you wish honey and no increase, let them swarm if you cannot help it.

Wm. Oldroyd described how he took a swarm out of a very high tree, which led to a discussion on hiving swarms.

Mr. Benedict: I would smoke a swarm down from a high limb by tying burning rags to a piece of iron fastened to a long pole, or I would use a swarming-box, which is the most natural. I divide by the "drumming" process. The bees thus swarmed are filled with honey; and as a swarm takes about 6 pounds of honey with them, this gives them a start. I put the old queen on the new stand, and run the new queen in the other part. In 15 days I can drum them again. By putting in the new queen, I always have the hive full of bees.

Dr. Besse: To hive a high swarm, I would shake the bees off on a pole, to which a caged queen is fastened.

C. E. Jones: In swarming time I watch my bees closely. I can tell within 10 minutes of the time when a swarm is going to come out. Bees generally alight low. I take the swarms from a limb in a swarming-basket with a spring lid. I generally catch swarms in a basket just as they are coming out. If two or three swarms alight together, dump them on a sheet, catch the queens, and divide them equally, as nearly as possible.

A. Benedict: I separate my swarms with a smoke-pole, holding it near the swarm already settled, which will prevent others from settling.

Pesident: I used to keep a caged queen to catch swarms, as stated by Dr. Besse.

Secretary: Mr. Ed. Miller, a neighbor bee-man, who is a carpenter by trade, and who is away from home during the day, clips his queens' wings, and during the swarming season sticks in the ground a stout bush, with some branches on, a few feet from the front of each hive. When a swarm comes out his "better half" catches the queen, cages her, and fastens the cage in the bush. The bees settle on the bush, and at noon, or in the evening—after work—Mr. M. hives them.

Adjourned to meet at the Fair Ground the next morning at 9 a. m.

FRIDAY MORNING SESSION.

In the absence of the President, Mr. Benedict acted as chairman;

GETTING THE MOST HONEY.

Mrs. Culp: I get more than twice as much extracted honey as comb honey by putting in empty frames.

Secretary: Last season I had a large number of sections filled with empty comb, and I believe it was due to this fact, that I had my good yield of comb honey this season. I think if we can always manage so as to get the sections filled with comb we can get as much comb as extracted honey.

Mr. Benedict: I advise beginners to go slow in extracting, and learn the business, or they may produce bad results, and get discouraged. I use a movable-bottom hive, and tier up in extracting. If the colony swarms, I hive it on foundation under the old colony, placing a wire cloth between the two for a day or two. The queen soon begins to occupy the lower story, and as the bees hatch out above, the honey is stored in the frames. By this method I get a large body of bees at work in a single hive. In working for comb honey, I use the same method of keeping my colonies strong by hiving back the swarms. If I hive swarms by themselves, I take a section-rack from the old hive and put it on a new one.

Mrs. Culp: My practice is similar to that described by Mr. Benedict.

"How soon is it advisable to extract after putting the swarms back?" *Ans.*—In two or three days, or as often as necessary—whenever the honey is partly capped.

Dr. Besse: This, in my experience, will not work well. If you extract the next day, the queen will go up and occupy the frames, and the bees will build drone-comb below. I have no particular method of working for extracted honey. I usually extract from the brood-chamber as soon as the queen gets crowded. I tier up my hives two or three stories high, and always let the bees cap about two-thirds of the honey before extracting. Bees work downward. I put an empty hive under the full one.

A. Benedict: In tiering up section-cases, always put an empty one beneath a full one.

The convention then adjourned to meet sometime in January, 1886.

G. F. Williams, *Sec. pro tem.*

For the American Bee Journal.

Bee-Keeping in E. Pennsylvania.

C. G. BEITEL.

On Sept. 15, the Farmers' and Mechanics' Institute Fair opened at Easton, Pennsylvania, and continued four days, and for the first time in the history of old Northampton county, there was a display of *real live bees*. Mr. John Maddock, of Glendon, a very enthusiastic amateur bee-keeper, exhibited a colony on six frames, the hive being glassed on both sides, and it seemed to be the greatest object of wonder at the Fair. In connection with it, he also showed honey in one and two-pound sections and in frames, hives, foundation, extractor, and in fact all the paraphernalia of bee-keeping. Mr. Maddock deserves great praise for his effort, especially as it was voluntary, unexpected, and without the offer of any premium.

Northampton county is one of the oldest in the old Commonwealth of Pennsylvania, having been organized March 11, 1752, and which is one of the most forward in manufactures, boasting between 30 and 40 iron blast-furnaces alone, and is up to the times in agriculture and almost everything, yet is not as far advanced in bee-culture as many of the counties in the Western States. It is true that bees have been kept here for a hundred years and upwards, but of all the bee-keepers in the county, perhaps not over a dozen have ever had a frame hive—a large number never saw one.

The country is covered by a network of railroads, and I frequently travel on them, and I am always on the lookout for bees; only a few days ago I noticed two apiaries under sheds, each containing about 25 colonies, in the one they were in box-hives, and the others were without exception in straw skeps, and reminded me of the plate and illustrations accompanying *Riem's Bienenzeucht*, published in 1795. I hear of many who will "brimstone" a large number of colonies this fall.

From the foregoing it must not, however, be inferred that utter darkness reigns among us, as the display of Mr. Maddock, above mentioned, proves; besides there are a number of intelligent bee-men in our midst, foremost of whom is Mr. William Christ, of Nazareth, now 75 years of age. He commenced bee-keeping when but 12 years old, with one colony, and for 63 years has never been out of bees; he has had as high as 130 colonies, and often less than 20; his present number is some 60.

Mr. C. has always kept up to the times, keeping himself posted by the periodicals and works on bee-culture as they appeared. When the frame hive was invented he adopted it; and when the Italian bee was introduced he was one of the first to get it. He perceived the advantages of comb foundation and the extractor, and was not slow to adopt them.

Mr. Christ is perhaps one of the the oldest bee-keepers in the land, and while he is modest and unassuming in his ways, yet the novice who applies to him for information, is always liberally rewarded.

I must also mention Mr. J. Johnson, of Martin's Creek, who has about 100 colonies, and annually markets a large amount of surplus honey.

Easton, Pa.

American Agriculturist.

Bee-Notes for October.

L. C. ROOT.

During the present month all colonies should be well protected from the cold. All openings for ventilation should be closed, and the entrance to each hive contracted. If care is used in this respect, breeding may be continued much later, which is extremely desirable. Surplus combs, which have been used for extracting, should be removed, and general preparations made for winter. If bees are to be wintered in-doors, it is all important that the room be clean and sweet, and well prepared for the bees. Many who propose to build, or arrange a new room for this purpose, neglect doing so until too late in the season. If a wall is to be laid, or plastering done, or even green lumber is to be used, the work should be done early, so that all may become thoroughly dry. Facilities for thoroughly ventilating a wintering room should be supplied.

Some do not have facilities for wintering bees in-doors, and other persons advocate wintering out-of-doors, in preference to in-doors. While I strongly advocate wintering in the house, I am aware that it is better to winter out-of-doors under favorable circumstances than in-doors under unfavorable conditions.

As to the needs for out-of-door wintering: It is well known that bees do not winter so well upon the summer stands, as they formerly did. The cause of this, I believe to be, that the country being so thoroughly cleared of its forests, the winter winds are more cold and searching. This being so, we must resort to some means of giving our hives protection. First, then, it is important to select as sheltered a place as possible to set the hives. Next, it is generally agreed that some kind of packing is necessary.

Last winter I made some experiments in out-of-door wintering, the results of which were of value to me. The outer cases of my hives were large enough to allow about 4 inches of packing on all sides of the brood-combs, and 6 inches on top. I used both chaff and dry sawdust for packing, and both proved successful. The hives were tipped slightly to the front, so that the dead bees were easily removed. The brood-combs were raised about an inch from the bottom-board, so that room was afforded for the dead bees to drop below the frames. A large entrance-stick, to fill an entrance one inch deep and as long as the entire front of the hive, was supplied, with a small opening made in the centre of it. This entrance-stick could be taken out to remove the dead bees when necessary, and replaced to protect the bees from cold. Next, and most important of all, the hives were surrounded with a perfectly tight enclosure. This I consider of extreme importance.

Experience has proven that bees can stand extreme cold weather, if not subject to drafts of cold air. Some of my experiments, which have brought me to those conclusions, have been dearly bought, and I urge those who have not had experience, to consider them well.

Mohawk, N. Y.

For the American Bee Journal.

The Ontario Convention.

BY OUR OWN CORRESPONDENT.

The adjourned meeting of the Ontario Bee-Keepers' Society was held in the City Hall at Toronto, on Tuesday evening, Sept. 15, President Thom being in the chair. After the transaction of some routine business, the President called the attention of the convention to some instances of disease and mortality among bees which he had noticed about the time basswood bloom had commenced. He had his theory about the cause, but before stating it he wished to learn if any other apiaries had been similarly affected, and whether any of the members had any explanation to suggest.

Mr. D. A. Jones said that his attention had been called to the matter by Dr. Thom. He was of the opinion that the trouble resulted from Paris-green used to poison the potato bug. It had but slightly affected his apiaries, and he believed this was owing to the fact that Paris-green was generally used in his locality mixed with flour or fine meal of some sort. In this dry form bees were not so likely to take it up as when it was mixed with water.

Mr. W. F. Clarke said that he had noticed the same phenomenon as had Dr. Thom, and had been much perplexed by it. The Paris-green theory furnished the first light he had obtained on the subject.

Dr. Thom said that he concurred with Mr. Jones, and had been led to that view from being a druggist as well as a physician. The trouble began just after his first sales of the poison. Again, when a second application of the poison came to be made, he noticed the same phenomenon. In his locality the poison was generally used mixed with water.

Mr. Jones remarked that it was only fair to say that the Paris-green solution of the trouble was not original with him, it having been suggested to him by Dr. Thom, in a letter, and he had no doubt that this was a true solution of the mystery.

A member inquired, "What is the best method of uniting weak colonies in the fall? and should the queen be caged?"

Mr. D. A. Jones replied thus: If you have more than one apiary, take weak colonies from one locality to the other, place the colonies to be united side by side, shake off all the bees into a fresh hive without combs; they will then unite peaceably. Bees fight for their homes, and in the absence of combs are not disposed to quarrel. After they settle down, combs can be given them. To add a small number of bees to a larger number without the precaution stated was to insure the slaughter of the few by the many. They would be killed and carried out almost as fast as one can put them in. If you have a valuable queen it is well to cage her for 24 hours. This fall he had 100 to 150 nuclei, and he united them to other colonies in the way described, without trouble or loss.

Mr. R. McKnight preferred to stimulate breeding and build up weak colonies to self-support. Every one, if wintered safely, meant a strong and profitable colony next year.

Mr. Clarke exhibited a model of his hibernating bee-stand, which the members examined individually, quietly passing it around while the discussions and business were going on.

The following officers were elected for the ensuing year: President, S. T. Pettit, Belmont; 1st Vice-President, Allen Pringle, Selby; 2d Vice-President, Mrs. McKechnie, Angus; (This lady has personally looked after 160 colonies during the past season.) Secretary-Treasurer, Wm. Couse, Meadowvale. The following executive committee was appointed: Messrs. D. A. Jones, Jacob Spence, S. Corneil, Dr. Thom, and R. McKnight.

A resolution was passed empowering the Secretary to grant certificates of delegation to any member who might be able to attend the forthcoming annual meeting of the North American Bee-Keepers' Society at Detroit, Mich., on Dec. 8, 1885.

The convention then adjourned until next year.

For the American Bee Journal.

Signs in Queen-Rearing.

OSCAR F. BLEDSOE.

System is all important in the apiary, and the more perfectly it permeates the operations of the bee-keeper the more capable is he of large success. One of the fascinations of bee-culture is its capacity of great expansion under one master mind. But an indispensable condition to large results is perfect system, and this is especially required in that most difficult branch of bee-culture—the rearing of fine queens. As the hives and nuclei employed in this branch have to be examined often, it is important for the queen-breeder, by the use of slates and signs, to be able to know at a glance the exact condition of the hive or nucleus inside, so that he may waste no labor or time, and may not be compelled to perform any operation not absolutely necessary.

The use of small slates is essential, and they must always be marked with a lead-pencil so that the rains may not wash out the marks. But he must not be compelled to look at the slates whenever he wants to know the condition of a nucleus. For instance, suppose a queen-breeder has several hundred nuclei and a large number of hives for surplus honey, how could he afford to be compelled to look at the slates, especially as some of the nuclei have to be manipulated every day. He must have in addition certain signs so that he may know at a glance in his daily rounds which to touch.

In order to facilitate my own operations, I have devised for my own use certain signs by the use of half-bricks and small bats. Each nucleus has a slate on top of its hive with dates, short words, and letters, showing the condition inside; as, for example, when a queen was taken for shipment, when a cell was given (whether artificial or natural), from what breeding-queen (I name each of my breeding queens, as queen Florence, Perfection, Daisy, etc.), and when the cell was hatched. I make these combinations with half-bricks and bats:

1. A half-brick on top of a hive, and a slate by it, denotes that the colony has just received a queen-cell.

2. A half-brick, and a slate on top of it, denotes that a queen-cell has hatched; if O. K. is on the slate it means that I have seen the virgin queen; if I. O. K. is on the slate it means that I have not seen the virgin queen, but that I think from the appearance of the queen-cell and absence of cells she is all right.

3. A half-brick, and a slate on top, and a small bat on top of the slate, denotes that the colony has a young laying queen.

4. A half-brick, and slate on top, and a half-brick on top of the slate, and a small bat on top of the last half-brick, indicates that I have just taken a laying queen from the colony, and that I must give it a queen-cell soon. When a queen-cell is given, I go back to No. 1.

5. A half-brick, and two bats on top, with a slate by the side of the same on the hive, shows me that the colony needs extra attention of some sort, as shown by the slate every day, until the normal condition is restored; and so on *ad libitum*.

Grenada, ♂ Miss.

* * *

For the American Bee Journal.

The Patsalaga, Ala., Convention.

The Patsalaga Bee-Keepers' Association met at the residence of Mr. J. R. McClendon, Ramer, Ala., on Sept. 10, 1885. The meeting proved to be harmonious, instructive and interesting. Many citizens were present who manifested much friendship and good-will toward the interest of bee-keeping in their locality. Several subjects usual among bee-keepers were discussed, and some resolutions passed, among which was a resolution that the Secretary send a list of the names of the members for publication.

J. R. McClendon, Pres., Asa Carter, Vice-Pres., M. G. Rushton, Sec., M. H. Freeman, Asst. Sec., W. E. Freeman, E. Y. Lawrence, F. M. Amerson, N. P. Jackson, C. C. Freeman, R. O. Lawrence, George McClendon, J. J. McClendon, J. L. Soles, W. A. Haynes, T. J. Eiland, J. H. Norman, Mrs. E. E. McClendon, W. H. Urqurheart, J. W. Hicks, Mrs. M. J. McClendon, F. M. Van, J. H. Lacy, S. G. Story, J. W. Jones, A. A. Stoddard, Walter Bozman, Fred Pouncy, G. G. Long.

M. G. Rushton, *Sec.*

SELECTIONS FROM OUR LETTER BOX

Smart-Weeds. — L. M. Brown, Sergeant's Bluff, ⊸ Iowa, on Sept. 12, 1885, writes:

I send a package of plants. They are numbered from 1 to 4. The Nos. 1 and 4 are the best for honey. Please name them all. I have a fine swarm of bees to-day.

[These plants all belong to the genus *Polygonum*. They are popularly called smart-weeds, though not one of these possesses acrid properties as do some of their relatives. All are excellent honey-plants, but No. 1 is by far the best. In its natural state it usually grows on wet land, but in cultivation it succeeds well on any rich soil. The names are: No. 1. *Polygonum Pennsylvanicum*, No. 2. *P. Persicaria*, No. 3. *P. incarnatum*, No. 4. *P. orientale*.—T. J. Burrill.]

Working on the Heart's-Ease.—Jno. Haskins, Empire Prairie, ⊸ Mo., on Sept. 17, 1885, writes:

Bees wintered very badly here last winter, some lost all and others lost very heavy. This season there was a few days that bees worked finely on white clover, but then it became so very dry that up to about Sept. 1, they kept eating what they had gathered in the early part of the season. About that time we had rain, and since then bees have been doing splendidly on the heart's-ease.

Bees in Good Condition. — Jesse White, Perry, ⊙ Iowa, on Sept. 19, 1885, writes:

I increased my apiary from 16 to 28 colonies, then one became queenless which I united with another, thus leaving 27. All are in good condition, I think, with plenty of honey for winter, which they have stored since Aug. 20, from smart-weed. Previous to that time they barely made a living. I will get about 75 pounds of surplus honey and 10 pounds of wax altogether. We have had no frost here yet.

Excellent Season.—6—Wm. Malone, (5—31), Oakley, ♀ Iowa, on Sept. 19, 1885, writes:

This season has been one of the best for honey that I have known since I have been in the bee-business. I commenced with 5 colonies on May 15; one of them was good, one fair, and the rest almost nothing, the weakest one not covering more than one-half of a Langstroth frame. Such a time as I had with bees last spring I never want again. I have increased my apiary to 31 good colonies, and have taken 865 pounds of extracted honey, by actual weight, and sold it at 8⅓ cents per pound. I will take enough or more to make 200 pounds per colony, spring count. My young colonies are gathering 2 pounds of honey per day now. We have had no frost yet, and the bees are working as strong to-day as they did in July. Linden did not amount too much, as it lasted only three days. All except 2 colonies of my bees have not killed their drones yet. I have had all the empty combs that I could use, and so made my increase by division, and kept the queens all the time at their best, never allowing them to become cramped for room. I reared all Syrian queens mated with Cyprian-Italian drones. This year I had my queens mated as I wanted them to be, for the first time. We had a cold spell on Sept. 8 and 9, and I had some bees chilled that could not get into the hives for want of room. They chilled at the entrances. On Aug. 20 my strongest colonies had 14 combs with brood, and they have to-day from 5 to 6 combs of brood. What will I do this winter, for I cannot get them on 10 combs, unless they die with old age faster than I think they will?

Best Season for 10 Years.—F. M. Taintor, Coleraine, ⊸ Mass., on Sept. 21, 1885, says:

The past season has been the best for honey since I have been in the bee-business, which is about 10 years. The forepart of the season was very good, but when basswood bloomed it was simply immense—the blossoms seemed to be dripping with liquid sweetness, and the way my Albinos brought in the honey would make any bee-keeper happy.

Working on the Goldenrod.—Henry Alley, Wenham, ♂ Mass., on Sept. 21, 1885, says:

Just as I had commenced to feed my bees, the weather changed from cold to warm, and for the past ten days bees have been at work upon goldenrod, and have stored enough honey to carry them safely through the winter. We have goldenrod in great abundance here—our road-ways are lined with it, besides, there are acres of it within one mile of my apiary. We are sure of a good crop of honey from it when the weather is favorable.

The Weather—My Honey Crop.—C. Thielmann, Thielmanton, ⟜ Minn., on Sept. 19, 1885, writes:

The weather for the past 4 or 5 weeks has been very unfavorable for bees here, so that they could not gather as much as they consumed, although there was an abundance of flowers, but it was too cold for honey secretion. Yesterday was the only day since about Aug. 20, that my bees did much of anything, and they were busy all day and came home laden with honey and pollen. They worked until they could not see any more in the evening. Although most of the corn has been frozen, on Sept. 1 and 2 the fall flowers were looking fresh and bright. I commenced with 90 colonies in the spring, increased them, by natural swarming, to 170, and obtained 6,500 pounds of honey, 1,000 pounds of which was extracted. Nearly all of it is clover and basswood. Last night we had a heavy rain, but it is nice and warm this morning.

Results of the Season.—J. A. Pearce, Grand Rapids, Mich., on Sept. 21, 1885, writes:

I increased my bees from 3 colonies to 11, by letting them swarm once and hiving the swarms on the old stands, and in a few days I separated the old colony into 3, dividing the queen-cells as near equally as possible. I was not quite quick enough with the last, as they had torn down all the queen-cells but one, or I would have had 12 colonies. I had no after-swarms, no watching, no loss of queens, and the colonies are all strong, and the hives are full of honey. I had combs with some honey to give the most of them, as I lost 8 colonies last winter that were on the summer stands in double-walled hives. My bees did not swarm this year until about July 1. I obtained 200 pounds of honey in 1-pound sections.

National Bee-Keepers' Union.

CONSTITUTION.

ARTICLE I.—This organization shall be known as the "National Bee-Keepers' Union," and shall meet annually, or as often as necessity may require.

ARTICLE II.—Its object shall be to protect the interests of bee-keepers, and to defend their rights.

ARTICLE III.—The officers of this Union shall consist of a President, five Vice-Presidents, and a General Manager (who shall also be the Secretary and Treasurer), whose duties shall be those usually performed by such officers. They shall be elected by ballot, and hold their several offices for one year or until their successors are elected and installed; blank ballots for this purpose to be mailed to every member by the General Manager.

ARTICLE IV.—The officers shall constitute an Advisory Board, which shall determine what action shall be taken by this Union, upon the application of any bee-keepers for defense, and cause such extra assessments to be made upon all the members as may become necessary for their defense.

ARTICLE V.—Any person may become a member by paying to the General Manager an Entrance Fee of ONE DOLLAR to the Defense Fund, and an annual fee of 25 cents, for which he shall receive a printed receipt making him a member of this Union, entitled to all its rights and benefits. The annual fee shall be due on the first day of July in each year, and MUST be paid within 30 days in order to retain membership in this Union.

ARTICLE VI.—Donations of any amount may be made at any time to the Defense Fund, in addition to the entrance and membership fees and the regular assessments made upon the members by the Advisory Board.

ARTICLE VII.—The Defense Fund shall be used for no other purpose than to defend and protect bee-keepers in their rights, after such cases are approved by the Advisory Board, and shall only be subjected to Drafts regularly made in writing by the Advisory Board.

ARTICLE VIII.—The annual fees paid by the members shall become a general fund, from which shall be paid the legitimate expenses of this Union, such as printing, postage, clerk-hire, etc.

ARTICLE IX.—Meetings of this Union shall be held at such times and places as shall be designated by the Advisory Board, or upon the written requisition of ten members.

ARTICLE X.—This constitution may be amended by a majority vote of all the members at any time.

The National Bee-Keepers' Union.

LIST OF MEMBERS.

Addenbrooke, W.,
Allen, Ransom,
Alley, Henry,
Anderson, J. Lee,
Anderson, Wm.,
Angell, C. S.,
Aspinwall, Jno.,
Babb, Enoch,
Baldwin, B. T.,
Ball, Miss J. M.
Barnes, Wm. M.,
Baxter, E. J.,
Bean, C. M. & W. L.
Bernschein, Ernst,
Besse, H., M. D.,
Billings, L. P.
Billing, Peter
Bitzer, Wm.,
Blanchard, O. C.,
Blount, C. N.,
Bohn, Gustav,
Bray, Moses,
Brickey, Peter,
Brown, A. J.,
Buchanan, J. W. & Bro,
Bucklew, J. A.,
Burrell, H. D.,
Burton, L.,
Camp, C. A.,
Camp, G. W.,
Carder, A.,
Chapman, B.,
Chapman, J.,
Cheney, H. H.,
Christian, P. J.
Clarke, Rev. W. F.,
Clickenger, Earlie,
Connley, John T.,
Cook, Prof. A. J.,
Cripe, Henry,
Dadant, Chas.,
Dadant, C. P.,
Darby, M. E.,
Dayton, C. W.,
Decker, A. A.,
Decker, C. K.,
Demaree, G. W.,
Dibbern, C. H & Son,
Dickason, T. B.,
Dittmer, Gus,
Dodge, U. E.,
Doolittle, G. M.,
Dorr, Dr. H R.,
Downs, Robert,
Drane, E.,
Dunham, P.,
Dunn, John,
Eaglesfield, E. C.,
Eastwood, L.,
Edson, A. S.
Elwood, Sr., W. R.,
Falsoner, J.,
Feathers, Harvey,
Flanagan, E. T.,
England, P. J.,
Eoke, Wm.,
Follett, Charles,
Forbes, W. E.,
France, E. & Son,
Freeborn, S. I.,
Fulton, W. K.,
Funk, H. W.,
Furness, Dwight,
Gander, A. M.,
Goodrich, A. S.,
Green, Charles H.,
Greening, C. F.,
Greiner, G. C.,
Greiner, Friedemann,
Gresh, Abel,
Grimm, Christopher,
Griswold, Fred,
Harding, Benj.,
Harlens, J G.,
Harrison, S. H.,
Hart, F. M.,
Haskin, A. S., M. D.,
Hatch, C. A.,
Havens, Reuben,
Hayhurst, E. M.,
Hester, Mrs. J. N.,
Heddon, James,
Hensley, J. P.,
Hettel, M.,
Hill, A. G.,
Hills, Mrs. H.,
Hilton, George E.,
Hobler, Geo.,
Hoke, Abe,
Hollingsworth, C. M.,
Howard, J. B.,
Hoyle, George H.,
Huse, Wm. H.,
Hutchinson, W. Z.,
Hyne, James M.,
Illinski, Dr. A. X.,
Isham, H. B.,
Jackson, Andrew,
Jardine, Jas.,
Jones, George W.,
Killough, J. M.,
King, D. N.,
King, T. Frank,
Koeppen, August
Lammey, John,
Langstroth, Rev. L. L.,
Lanning, John,
Lawton, B. W.
Le Roy, J. W.,
Lindsly, L.
Ludkey, Charles,
Ludloff, K.,
Lyman, W. C.,
Lynch, Jno. C.,
Maddox, W. T.,
Mahin, Rev. M.
Mallory, S. H.,
Manum, A. E.,
Marden, Henry,
Margrave, J. W.,
Mason, Jas. B.,
Mattoon, Jas.,
McConnell, James,
McCormick, Emery,
McGee, Charles,
McLees, S.,
McNay, Frank,
McNeill, James,
Millard, D.,
Miller, B. J. & Co.,
Miller, Dr. C. C.,
Miller, Henry,
Mills, L. D.,
Minnich, F.,
Minor, N. L.,
Morse, William,
Muth, C. F.,
Muth-Rasmussen, Wm.,
Nelson, James A.,
Newman, Alfred H.,
Newman, S M.,
Newman, Thomas G.
Nipe, James,
Nutt, W. C.,
Ochsner, J. J.,
Osburn, A. W.,
Owens, J. J.,
Parker, D. G.,
Payn, W. N.,
Pennoyer, L. A.,
Perkins, Nelson,
Peters, Geo. B.,
Peters, Jno.,
Phelps, N. T.,
Pond, Jr., J. E.,
Powell, E. W.,
Pray, G. L.,
Rainey, Jarvis,
Raisch, H.,
Reed, L.,
Reed, L. G.,
Rey, John,
Reynolds, M. G.,
Roberts, Jesse H.,
Root, A. I.,
Rose, C. H.,
Rowe, David,
Roye, Burr,
Schaper, E. F.,
Scheuring, Paul,
Seabright, L. C.,
Sears, J. W.,
Secor, Eugene,
Shapley, D. L.,
Shearman, J. O.,
Shirley, W. H.,
Shuck, J. M.,
Slade, W. D.,
Smith, George,
Smith, Mrs. Martha,
Snell, F. A.,
Spady, Jno.,
Spencer, M. L.,
Stearns, J. R.,
Stephenson, H. W.,
Stephens, W. B.,
Stewart, W. H.,
Stocker, Wm. S.
Stolley, Wm.,
Stordock, C. H.,
Storer, E. M.,
Talbert, M.,
Taylor, George,
Taylor, R. L.
Thatcher, Will.,
Theilmann, C.,
Thompson, Geo. M.,
Tinker, Dr. G. L.,
Tongue, L. N.,
Travis, F. W.,
Travis, I. A.,
Treadwell, W. B.,
Trimberger, John,
Turner, T. E.,
Twining, M. J.,
Tyner, Alonzo,
Vanhouten, C. W.,
Viallon, P. L.,
Walton, Col. R.,
Webster, H. S.,
Weeks, C.,
Wendt, Henry,
Whitney, W. V.,
Wicherts, A.,
Wilkins, Miss Lucy A.,
Wolcott, Wm. C.,
Wright, W. D.,
Wurth, Dan.,
Zwiener H. L.

Room for many more.

Honey and Beeswax Market.

Office of the AMERICAN BEE JOURNAL,
Monday, 10 a. m., Sept. 28, 1885.

The following are the latest quotations for honey and beeswax received up to this hour:

CHICAGO.

HONEY.—The market is steady at 15 cts. per lb. for white comb honey in 1-lb. sections. Receipts and sales are keeping pace with each other. Some well filled ½-lb. sections, this week, brought 16 cts. Extracted honey brings 5@8c., with a steady feeling prevailing.

BEESWAX.—23@24c. on arrival.

R. A. BURNETT, 161 South Water St.

BOSTON.

HONEY.—We have received quite a large stock of honey, mostly from Vermont, and the quality is very fine. We are doing the best we can to keep the price up where bee-keepers can get something for their honey. One of the largest producers of honey sold his entire crop at a very low price, and honey is being sold here so that it will leave bee-keepers nothing. We still hold our prices at 16@18 cts. for 1-lb sections, and 14@16c. for 2-lbs. Extracted is 6@8c. per lb.

BEESWAX.—30 cts. per lb.

BLAKE & RIPLEY, 57 Chatham Street.

NEW YORK.

HONEY.—There is not much change in the market. The new crop is coming in quite freely, and is selling readily at the following prices: Fancy white clover, in 1-lb. sections, 14@15 cents; the same in 2-lb. sections, 12@13c.; fair to good, in 1 and 2 lb. sections, 10@11c.; fancy buckwheat, in 1-lb. sections, 11@12c.; the same in 2-lb. sections, 9@10c. Extracted, white clover, 6@7c.; buckwheat, 5@6c.

BEESWAX—Prime yellow, 25@28c.

MCCAUL & HILDRETH BROS., 34 Hudson St.

CINCINNATI.

HONEY.—No change has taken place in the general feature of the market. Demand is slow for extracted honey with abundance on the market. Extracted honey brings 4@8c on arrival, and choice comb honey 15@16c in a jobbing way.

BEESWAX—Is in fair demand, and arrivals are good. We pay 20@24c for good yellow.

P. S. The following explanation in regard to markets seems to be in order to post some bee-keepers and save them from disappointments. When quoting prices "on arrival," I mean to say that honey will bring *about* the price quoted, or that a figure within the range given, will appear reasonable or acceptable to a purchaser. I quote as nearly as possible the price at which I am buying and selling. I do *not* mean to say that purchasers are waiting for the arrival of honey and are anxious to buy at those prices quoted, nor that I am willing to pay those prices on arrival for all the honey that may be shipped here. This latter would require a larger capital than I and two more of the largest dealers in America possess. It is unpleasant for us to be over-run with honey for which I will not pay on arrival, unless agreement has been made previous to shipment.

C. F. MUTH, Freeman & Central Ave.

SAN FRANCISCO.

HONEY.—Arrivals are quite light, with a probability of so continuing through the balance of the season. There is some inquiry for best qualities, with a firm market for the same. Quotations are as follows: White to extra white comb, 9@11c.; dark to good, 5@8c. Extracted, white liquid, 5@5½ cts.; light amber colored, 4½@5c.; amber and candied, 4¼c.

BEESWAX.—Quotable at 23@25c., wholesale.

O. B. SMITH & CO., 423 Front Street.

CLEVELAND.

HONEY.—The new crop is beginning to arrive and is selling at 14@15 cts. per lb. for choice 1-lb. sections. Old honey is very dull—none selling although freely offered at 10@12 cts. Extracted, as usual is not in demand in our market.

BEESWAX.—20@22 cts. per lb.

A. C. KENDEL, 115 Ontario Street.

KANSAS CITY.

HONEY.—We now report a very firm market with some advance in prices, though the trade take hold very slowly as yet, and complain terribly when the advance is quoted to them. We are now holding for 16@17c. for fancy white honey in 1-lb. sections, 15@16c. for 2 lbs., and 12@13c. for Calif. Fancy 1-lb. sections, if marketed soon, will bring a good price. Extracted is a little firmer at about the same prices, viz: Miss., La. and Texas, 4@6c., and white clover and Calif., 7@8c.

BEESWAX.—Unchanged, 20@25c., according to quality.

CLEMONS, CLOON & CO., cor. 4th & Walnut.

WEEKLY EDITION
OF THE
AMERICAN
ESTABLISHED IN 1861
OLDEST BEE PAPER IN AMERICA
BEE JOURNAL

PUBLISHED BY
THOMAS G. NEWMAN & SON,
PROPRIETORS,
923 & 925 WEST MADISON ST., CHICAGO, ILL.
Weekly, $2 a year ; Monthly, 50 cents.

ALFRED H. NEWMAN,
BUSINESS MANAGER.

Special Notices.

SPECIAL NOTICE.—On January 1,1886, the price of the Weekly BEE JOURNAL will be reduced to *One Dollar a Year*. This we have contemplated for some years, and only awaited the proper time to warrant us in issuing the Weekly BEE JOURNAL at the very low price of *one dollar* a year. That time has now come. We shall continue to improve the BEE JOURNAL, and it will maintain its proud position as the leading bee-paper of the World !

New subscribers will be supplied with the Weekly from now until the end of the year 1886, for $1.25.

Those who have already subscribed for any portion of *next year* will have the time beyond January 1st doubled. These changes in the mail-list type are already made.

* * *

For $1.25 we will send the Weekly BEE JOURNAL to *new subscribers* from now until the end of 1885—fifteen months. Now is the time to subscribe. The sooner it is done the more they will get for the money.

* * *

To Correspondents. — It would save us much trouble, if all would be particular to give their P. O. address and name, when writing to this office. We have several letters (some inclosing money) that have no name; many others having no Post-Office, County or State. Also, if you live near one post-office and get your mail at another, be sure to give the address we have on our list.

* * *

Bees and Poultry.—But few out-door pursuits go so well together as bees and poultry. Give the poultry the necessary attention in the morning and evening, and give the bees such of the time between as becomes necessary. We have made arrangements by which we can supply the American Poultry Journal (price $1.25) and the Weekly BEE JOURNAL both for $1,75 a year. This is a rare opportunity to get two standard papers for less than the price of one.

* * *

Any person not a subscriber, receiving a copy of this paper, will please consider it an invitation to become a subscriber to it.

Local Convention Directory.

1885. *Time and place of Meeting.*

Oct. 1.—Southern Illinois, at Duquoin, Ills.
F. H. Kennedy, Sec., Duquoin, Ills.

Oct. 2.—Union, at Dexter, Iowa.
M. E. Darby. Sec., Dexter, Iowa.

Oct. 10.—Wabash County, at N. Manchester, Ind.
J. J. Martin, Sec., N. Manchester, Ind.

Oct. 15, 16.—Western, at Independence, Mo.
C. M. Crandall, Sec., Independence. Mo.

Oct. 15.—Progressive, at Macomb, Ills.
J. G. Norton, Sec., Macomb, Ills.

Oct. 21.—Md., Va. & W. Va., at Hagerstown, Md
D. A. Pike, Pres., Smithsburg, Md.

Oct. 28, 29.—Central Illinois, at Jacksonville, Ills.

Nov. 5, 6.—N. J. & Eastern, at Trenton, N. J.
Wm. B. Treadwell, Sec., 16 Thomas St., N. Y.

Nov. 12.—Central Michigan, at Lansing, Mich.
E. N. Wood, Sec., N. Lansing, Mich.

Dec. 8—10.—Michigan State, at Detroit. Mich.
H. D. Cutting, Sec., Clinton, Mich.

Dec. 8—10.—North American, at Detroit, Mich.
W. Z. Hutchinson, Sec., Rogersville, Mich.

Dec. 8-10.—Northwestern, at Detroit, Mich.
W. Z. Hutchinson, Sec., Rogersville, Mich.

☞ In order to have this table complete, Secretaries are requested to forward full particulars of time and place of future meetings.—ED.

* * *

☞ To create Honey Markets in every village, town and city, wide-awake honey producers should get the Leaflets "Why Eat Honey" (only 50 cents per 100), or else the pamphlets on "Honey as Food and Medicine," and scatter them plentifully, and the result will be a DEMAND for all of their crops at remunerative prices. "Honey as Food and Medicine" are sold at the following prices :

Single copy, 5 cts. ; per doz., 40 cts. ; per hundred, $2.50. Five hundred will be sent postpaid for $10.00; or 1,000 for $15,00. On orders of 100 or more, we will print, if desired, on the cover-page, "Presented by," etc. (giving the name and address of the bee-keeper who scatters them).

To give away a copy of "Honey as Food and Medicine" to every one who buys a package of honey, will sell almost any quantity of it.

* * *

Preserve your papers for reference. If you have no **BINDER** we will mail you one for 75 cents, or you can have one FREE if you will send us 3 new yearly subscriptions for the BEE JOURNAL.

* * *

☞ Our rates for two or more copies of the book, "Bees and Honey," may be found on the Book List on the second page of this paper. Also wholesale rates on all books where they are purchased "to sell again."

* * *

☞ **Sample Copies** of the BEE JOURNAL will be sent FREE upon application. Any one intending to get up a club can have sample copies sent to the persons they desire to interview by sending the names to this office, or we will send them all to the agent.

* * *

☞ All who intend to be systematic in their work in the apiary, should get a copy of the Apiary Register and commence to use it. The prices are as follows :

For 50 colonies (120 pages)..............$1 00
" 100 colonies (220 pages)...... ...... 1 25
" 200 colonies (420 pages).............. 1 50

The larger ones can be used for a few colonies, give room for an increase of numbers, and still keep the record all together in one book, and are therefore the most desirable.

When Marketing Extracted Honey. it is a sad *blunder* to use barrels holding from 300 to 500 pounds—they are too large to be desirable for the trade, too bulky to be handled with care in transportation, and too dear to be lucrative to the producer, for honey put up in such large barrels is subject to a discount of one cent per pound, because of the difficulty in disposing of it without repacking and dividing into smaller lots.

Advertisements.

85 COLONIES of BEES for SALE.

SYRIO-ITALIANS and RED-CLOVER ITALIANS—all on L. frames, mostly wired. Wishing to go South for my health, I offer the above in lots of 5 or more, at $5 per colony, or $360 for the lot, if taken soon; together with extractor, section-cases, and extra frames. All re-queened from the best strains this year.

J. SINGLETON,
39A1t Brooklyn Village, Cuyahoga Co., O.

BEESWAX.

We pay 20c. per lb., delivered here, for yellow Beeswax. To avoid mistakes, the shipper's name should always be on each package.

THOS. G. NEWMAN & SON,
923 & 925 West Madison Street, CHICAGO, ILL.

HONEY

WE are now in the market, and will be during the entire season, for all honey offered us, in any quantity, shape, or condition—just so it is pure. We will sell on commission, charging 5 per cent.; or, if a sample is sent us, we will make the best cash offer the general market will afford. We will handle beeswax the same way, and can furnish bee-men in quantities, crude or refined, at lowest market prices. Mr. Jerome Twichell, our junior member in this department, has full charge, which insures prompt and careful attention in all its details.

Sample of comb honey must be a full case, representing a fair average of the lot. On such sample we will make prompt returns, whether we buy or not.

CLEMONS, CLOON & CO.,
36A17t KANSAS CITY, MO.

BEE-KEEPERS' GUIDE;

Or, MANUAL OF THE APIARY.

12,000 SOLD SINCE 1876.

13th Thousand Just Out !

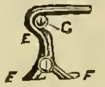
10th Thousand Sold in Just Four Months
8,000 Sold Since May, 1883.

More than 50 pages, and more than 50 fine illustrations were added in the 8th edition. The whole work has been thoroughly revised, and contains the very latest in respect to bee-keeping. It is certainly the fullest and most scientific work treating of bees in the World. Price, by mail, $1 25. Liberal discount to dealers and to clubs.

A. J. COOK, Author and Publisher,
1C1y Agricultural College, Mich.

☞ For sale also at the Office of the BEE JOURNAL, at wholesale or retail.

ACKERMAN'S
BOTTOM-BOARD HOOK
FOR HIVES.



A cheap and desirable contrivance for securing loose bottom-boards to the hives. It can be operated INSTANTLY. One sample set, by mail, 20 cents. One or more, by express, 15 cents each. For sale by

THOS. G. NEWMAN & SON,
923 & 925 West Madison St., CHICAGO, ILL.

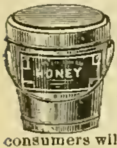
QUEENS

AT REDUCED PRICES.

OWING to the scarcity of money, I will SELL **Warranted Queens at $8.00 per dozen. Two dozen for $15.00.**

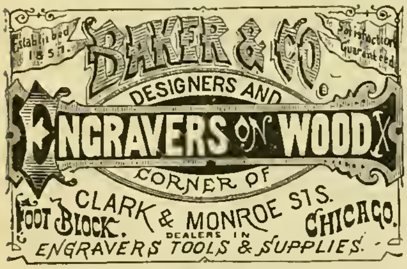
30ABtf **J. T. WILSON,** Nicholasville, Ky.

NEW ONE-POUND HONEY PAIL.



THIS new size of our Tapering Honey Pails is of uniform design with the other sizes, having the top edge turned over, and has a bail or handle,—making it very convenient to carry. It is well-made and, when filled with honey, makes a novel and attractive small package, that can be sold for 20 cents or less. Many consumers will buy it in order to give the children a handsome toy pail. **PRICE, 75 cents per dozen, or $5.00 per 100.**

THOS. G. NEWMAN & SON,
923 & 925 West Madison St., CHICAGO, ILL.



Established 1857.
BAKER & CO.
Satisfaction Guaranteed.
DESIGNERS AND
ENGRAVERS ON WOOD
CORNER OF
CLARK & MONROE STS.
FOOT BLOCK. CHICAGO.
DEALERS IN
ENGRAVERS TOOLS & SUPPLIES.

Dadant's Foundation Factory, wholesale and retail. See Advertisement in another column.

$200,000

in presents given away. Send us 5 cents postage, and by mail you will get *free* a package of goods of large value, that will start you in work that will at once bring you in money faster than anything else in America. All about the $200,000 in presents with each box. Agents wanted everywhere, of either sex, of all ages, for all the time, or spare time only, to work for us at their own homes. Fortunes for all workers absolutely assured. Don't delay. H. HALLETT & CO.
51A1y Portland, Maine.

Muth's Honey Extractor,

Square Glass Honey Jars, Tin Buckets,
Langstroth Bee-Hives, Honey-Sections, etc.
Apply to **CHAS. F. MUTH,**
Freeman & Central Ave., - CINCINNATI, O.
☞ Send 10c. for Practical Hints to Bee-Keepers.

ELECTROTYPES

Of Engravings used in the Bee Journal for sale at 25 cents per square inch—no single cut sold for less than 50c. **THOS. G. NEWMAN & SON,**
923 & 925 West Madison Street, **Chicago, Ill.**

Dadant's Foundation Factory, wholesale and retail. See Advertisement in another column.

W. Z. HUTCHINSON,

Rogersville, Genesee Co., Mich.,

CAN still furnish Italian queens, bred from the best of mothers, and reared in full colonies. Single queen, $1.00; six for $5.00; twelve, or more, 75 cts. each. Tested queens $2.00 each. Make money orders payable at Flint. 37Atf

Bee-Keepers' Badges at Fairs.

We have some **ELEGANT RIBBON BADGES,** having a rosette and gold Bee, for bee-keepers' use at Fairs, Conventions, etc. Price 50 cents each, by mail, postpaid.

THOMAS G. NEWMAN & SON,
923 & 925 West Madison St., CHICAGO, ILL.

Wooden Pails for Honey!

WE can furnish regular Wooden Water-Pails—well painted on the outside, and with 3 iron hoops and a tight-fitting wood cover, at **$2.25** per dozen. They will hold **25** lbs. of honey, and when empty, can be utilized for use as an ordinary household pail.

THOS. G. NEWMAN & SON,
923 & 925 West Madison Street, CHICAGO, ILL.

FOLDING PAPER-BOXES.

Bee-keepers who desire to put their honey on the market in the most attractive manner, should use the **Folding Paper Box.** Read what the Editor of this paper says concerning this box, on page 531. Sample box, by mail, 5 cts. Send for circular and prices.

GEO. T. HAMMOND,
35Atf BROCKPORT, Monroe Co., N. Y.

THE INVERTIBLE HIVE!

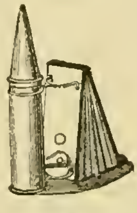
INVERTIBLE FRAMES,
Invertible Surplus Honey Cases,
Entrance Feeders, Top and Bottom Feeders,
Hive-Lifting Device, Honey Extractors,
Wax Extractors, Comb Foundation, etc.

☞ My new Illustrated Catalogue is now ready, and will be mailed to all who may apply for it. Address,

J. M. SHUCK,
DES MOINES, IOWA.
10A1y

A PRIZE.

Send six cents for postage, and receive free, a costly box of goods which will help you to more money right away than anything else in this world. All, of either sex, succeed from first hour. The broad road to fortune opens before the workers, absolutely sure. At once address TRUE & CO., Augusta, Maine.
51A1y



Bee-keepers' Supplies,

Standard Langstroth,
Quinby Standing-Frame,
And all other kinds of **Hives,**
MADE TO ORDER.
Quinby Smoker a specialty.

I shall supply anything you need in the Apiary. Send for Illustrated Price List.

W. E. CLARK, successor to L. C. Root,
7A1y ORISKANY, Oneida County, N. Y.

DOUBLE-WALLED

Langstroth Hives

FOR WINTERING BEES ON SUMMER STANDS.

THEY are made identical and interchangeable with our Standard Langstroth Hives, as advertised and described in our Catalogue. All upper stories and surplus arrangements made by us will fit this double-walled brood chamber. Prices: Nailed, **50c.**; in the flat, **35c.** per hive, in addition to our prices of the Standard Langstroth. We also make our 7½-inch Caps with a sloping or Cottage Roof, which is worth **20c.** nailed and **15c.** flat, in addition to the prices of the Standard Langstroth hive, which has a flat top.

THOS. G. NEWMAN & SON,
923 & 925 West Madison St., CHICAGO, ILL.

60 New Style, Embossed Hidden Name and Chromo Visiting Cards, no 2 alike, name on, 10c., 13 packs $1; warranted best sold. Sample book, **4c.** L. JONES & CO., Nassau, N. Y.
11A1y

WIN more money than at anything else by taking an agency for the best selling book out. Beginners succeed grandly. None fail. Terms free. HALLETT BOOK CO.
51A1y Portland, Maine.

HELP for working people. Send 10 cents postage, and we will mail you *free*, a royal, valuable sample box of goods that will put you in the way of making more money in a few days than you ever thought possible at any business. Capital not required. You can live at home and work in spare time only, or all the time. All of both sexes, of all ages, grandly successful. 50 cents to $5 easily earned every evening. That all who want work may test the business, we make this unparalleled offer: To all who are not well satisfied we will send $1 to pay for the trouble of writing us. Full particulars, directions, etc., sent free. Immense pay absolutely sure for all who start at once. Don't delay. Address STINSON & CO.
51A1y Portland, Maine

THE BRITISH BEE JOURNAL

AND BEE-KEEPER'S ADVISER.

The BRITISH BEE JOURNAL is published SEMI-MONTHLY, at Seven Shillings per annum, and contains the best practical information for the time being, showing what to do, and when and how to do it.

The British Bee Journal and our Weekly for $2.50.

THE HORSE,

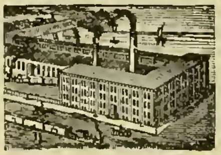
By B. J. KENDALL, M. D.

A TREATISE giving an index of diseases, and the symptoms; cause and treatment of each, a table giving all the principal drugs used for the horse, with the ordinary dose, effects and antidote when a poison; a table with an engraving of the horse's teeth at different ages, with rules for telling the age of the horse; a valuable collection of recipes, and much valuable information.

Price 25 cents—in English or German.

THOS. G. NEWMAN & SON,
923 & 925 West Madison St., CHICAGO, ILL.

BARNES' FOOT-POWER MACHINERY.



Read what J. I. PARENT, of CHARLTON, N. Y., says—"We cut with one of your Combined Machines last winter 50 chaff hives with 7 in. cap, 100 honey racks, 500 broad frames, 2,000 honey boxes and a great deal of other work. This winter we have double the amount of bee hives, etc., to make and we expect to do it all with this Saw. It will do all you say it will. Catalogue and Price List Free. Address W. F. & JOHN BARNES, No. 196 .. Ruby street, Rockford, Ill.

BOND & PEARCH.

(ESTABLISHED 1860.)
163 South Water St., CHICAGO,

COMMISSION MERCHANTS!

Make a Specialty in HONEY.

Consignments solicited. Will make liberal advances on shipments. Refer to Hide and Leather National Bank. 7Btf

☞ **Send for Circular** of the **Rarest Books on Earth.** (box 14) B. G. STAUFFER, Bachmanville, Pa
12B1y

WEEKLY EDITION
OF THE
AMERICAN
ESTABLISHED IN 1861
OLDEST BEE PAPER IN AMERICA
BEE JOURNAL

THOMAS G. NEWMAN,
EDITOR.

Vol. XXI. Oct. 7, 1885. No. 40.

APICULTURAL NEWS ITEMS.

EDITORIAL AND SELECTED.

O, Goldenrod, bright goldenrod !
You spring from out the barren sod,
On worn-out places where no grain
Springs up to meet the sun and rain.
I love to pluck your plumes of light,
And deck them with my robe of white ;
To see them gleaming fold on fold,
Gold upon white and white on gold.

The Recent Wet Weather has very materially interfered with the Fairs in several States.

In Maine it is estimated that there are 12,000 colonies of bees, and the annual honey crop is worth about $40,000.

Nectar in the Flowers is controlled largely by electricity in the atmosphere. When storms are frequent, the general report is that the blossoms contain no nectar. Cyclones, tornadoes, hail storms, thunder and lightning are largely the cause of a poor honey crop. The past two seasons were surprising expamples of too much electricity in the atmosphere, with a corresponding lack of honey.

Mrs. Fader, at Gouldville, Pa., was stung on the upper lip by several bees while passing through an apiary of cross bees. Her husband withdrew the stings, applied wet earth to the wounds, and took her to the house. In a few minutes she fell to the floor in convulsions, with her nostrils and lip so swollen that she could only breathe through her mouth. A Doctor was sent for, but before he came she died. She was 28 years of age, and lived but 45 minutes after she was stung. Of course her system must have been in a very bad condition, and the poison took immediate and deadly effect.

When Marketing Extracted Honey, it is a sad *blunder* to use barrels holding from 300 to 500 pounds—they are too large to be desirable for the trade, too bulky to be handled with care in transportation, and too dear to be lucrative to the producer, for honey put up in such large barrels is subject to a discount of one cent per pound, because of the difficulty in disposing of it without repacking and dividing into smaller lots.

Honey Wine.—Mr. C. J. Quinby, of White Plains, N. Y., says : "My method of making wine is a modification of several receipts in a little work entitled 'Honey as Food and Medicine,' by the editor of the AMERICAN BEE JOURNAL. Honey makes a fine wine, the only secret is the old one, 'Good in all things,' handled carefully and understandingly."

Bees and Bailiffs.—County-court bailiffs have, from time immemorial, been subjected to much unpleasant treatment, but probably the most remarkable mode of assault yet discovered for them was the subject of a trial at Northampton, England. It transpired that on the bailiffs entering a house at Woodford to levy an execution, the occupant, named Samuel Gunns, threw a hive of bees at them, and immediately locked the officers in a room with the infuriated insects. Pleasant for the bailiffs ! Gunns is evidently a man of inventive genius.—*London Paper.*

Mr. J. B. Mason thus describes his visit to the apiary of J. E. Pond, Jr., Foxboro, Mass. :

> He has a large law practice and keeps bees only as a means of recreative exercise, and from a deep love of the occupation. He is one of the most enthusiastic bee-keepers I have ever met, and at the same time is thoroughly posted in apiculture as well as in law. He has kept as many as 50 or 60 colonies at a time, although he has but 7 at the present time. He is a hard student in entomology, and often sacrifices a colony for the purpose of proving or disproving a principle. The condition of his apiary proved to me that he knew how to take care of it. He wintered his bees on the summer stands.

"Artificial Honey is made by a machine invented by a Wisconsin woman," is the stupid announcement made by the Chicago *Mail* of Sept. 26, 1885.

There is not the slightest foundation for such a base assertion ! The only Wisconsin woman who has invented any thing connected with bee-culture is Mrs. Dunham, of De Pere, Wis. Her invention was a comb-foundation mill for pressing corrugations into sheets of wax, to assist the bees in making comb in which they store pure honey—*not a machine for making artificial honey !* Ignorant or sensational reporters are continually "blundering" or wilfully misrepresenting everything connected with bee-culture, greatly to the injury of the pursuit.

This, like Prof. Wiley's *falsehood* which he says he wrote as a scientific pleasantry, and the Detroit paper's *falsehood* concerning a certain Michigan bee-keeper adulterating his honey, and other falsehoods of a similar character, are scattered over the earth by "winged lightning," but a contradiction of such villainous falsehoods never catches up with them !

As an Example of careless handling, Dr. Tinker sent a nucleus of his Syrio-Albino bees containg a valuable queen, by express, to the Michigan State Fair, but they had been used so roughly, having been thrown around by the expressmen, that they were returned to the Doctor before the Fair, in order to save the queen, if possible. Clearly the express company should be held responsible for such inexcusable smashing by its employes. It is an outrage.

In Germany the different Governments are so alive to the importance of this source of profit to the peasant from keeping bees, that the children are taught the best method of bee-culture, and a school-master does not receive his diploma until he satisfies the State Examiner that he is familiar with the science of a *bienenvater.*

Ether and Chloroform have been used by some with success while introducing queens, uniting colonies, etc. At the Toronto Convention of the North American Bee-Keepers' Society, Mr. Jones said that he used a smoker containing three sponges, that in the middle having a few drops of chloroform upon it. By fumigating the hive with this, all the fight was taken out of the bees and they accepted the queen given them and made no attempt to injure her, even after the recovered from the effects of the chloroform. This method, he said, was simple, safe, and the cost for chloroform only one cent for each queen introduced.

Mr. Langstroth caused a good deal of laughter by describing some experiments he had conducted in feeding bees with sugar moistened with brandy, in order to be able to safely introduce a new queen. Said he : "It's no harm to make bees drunk, I guess. If some of you want to see some fun, get some bees drunk, and watch them. You never saw such a consequential creature as a bee." His experiments, however, were a failure, for as soon as the bees "sobered up," they destroyed the queen given to them.

P. Bach etherizes bees when he wishes to unite them. He places the sponge, moistened with the anæsthetic, in the hive. As soon as the bees fall to the bottom of the hives, they are united and soon revive upon receiving fresh air.

Mrs. H. Hills had an excellent exhibit of bees, honey, etc. at the Sheboygan, Wis., County Fair. The local paper notices it thus :

> Among the many exhibits in the Hall on the Fair Grounds, one worthy of more than a passing notice, is that of Mrs. Henry Hills. It comprises a most elaborate display of bees, their products, appliances, etc. They are: a show-case of honey in packages, glass jars and pails ; extractor with hives of combs to be extracted on the grounds, if convenient ; wax-extractor with specimens of wax from both cappings and combs ; observatory hive with bees at work, shipping cage containing one pound of bees ready to ship, funnell and brush for caging them, cages containing queens ready to ship, bee-veil and gloves, hiving net and pole, telephone by which to tell when bees are swarming, wintering hive, 100-pound can with honey-gate for filling pails and jars at retail stores, botanical specimens of honey-producing plants, file of three leading bee-periodicals in patent binders, three books on apiculture, surplus cases for comb honey, wired frames of foundation, also some with foundation drawn out just ready for the bees to deposit the honey, combs containing brood in all stages, with queen-cells just started, comb-cage for introducing a valuable queen safely on comb of brood, queen-excluder for keeping the queen out of the upper story of the hive, scissors for clipping wings of queens, wire for brood-frames, implement for pressing wires into the foundation, etc.

Mrs. Hills informs us that she could have sold almost any amount of honey at the Fair, had she been provided with it—the general preference being for extracted honey. What an excellent method of creating a local market for honey !

Vick's Magazine.

Glad Autumn Days.

MRS. M. J. S.

The magic voice of spring is gone,
Her emerald blades are turning brown ;
The Dandelion's ball of lace
Has given place to Thistle-down ;
The Violets have caught the dew,
And hid it 'neath their bonnets blue,
And orchard blossoms, pure and sweet,
Have long since withered in the heat.

The sickle, sharp and keen, has reaped
The meadow blossoms, rows on rows ;
The Barley lies in winnowed heaps,
And aftermath luxuriant grows ;
The Sumac tall, all touched with change,
Forms crimson head around the grange,
And, floating now my path across,
On gauzy wings is Milkweed's floss.

O, Maples all in scarlet dressed ;
O, spikes of fiery Goldenrod ;
O, purple Asters everywhere
Upspringing from the aere-grown sod ;
O, blue-fringed Gentian, growing tall,
Thou comest when the leaflets fall,
Sweet flowers to bloom 'neath golden haze,
And glorify glad autumn days.

QUERIES

WITH

REPLIES by Prominent Apiarists.

Correct Bee-Spaces, etc.

Query, No. 123.—1. What is the exact space required for a worker-bee to pass through and that the queen and drones cannot go through. 2. Are the drones from laying workers of any value? 3. Does an Italian queen mated with a black drone produce pure Italian drones ?—J. G. N.

1. About 3-16 of an inch. Bees are not invariable in size. I had one queen that would pass through the perforated zinc. 2. I think that such drones are as good as any. 3. I believe she does.—A. J. COOK.

1. Five-thirty-seconds of an inch works well. 2. I do not tolerate laying workers, as they only come by a colony being long queenless, or with the Syrian or Cyprian races which I have eradicated from my apiary on account of this laying-worker nuisance. 3. Practically, yes.—G. M. DOOLITTLE.

2. Yes. 3. Yes, and no black drones. —DADANT & SON.

1. Five-thirty-seconds of an inch, or the merest trifle less. 3. So far as my observation has gone, she does.—W. Z. HUTCHINSON.

1. Different strains and races of bees differ in size ; 5 32 of an inch has been given as a proper size. I use 3-16, scant, successfully. 2. Not that I know of. I do not know that I ever received any value from them.—JAMES HEDDON.

1. A properly developed virgin queen cannot get through 3-16 of an inch. Worker bees can squeeze through 5 32 of an inch, but nothing less. Eleven-sixty-fourths of an inch will allow a worker to pass with simply brushing the hairs on its back. Three-sixteenths of an inch will exclude full sized drones and most queens. 2. I do not think they are virile, but I do not allow such drones to fly. 3. My experience convinces me that the purest Italian bees have an admixture of black blood. I believe that some well-marked black bees can be produced in three generations from the best Italian stock ; yet I do not think that what is termed "pure Italian drones" can be produced in the manner stated.—G. L. TINKER.

1. About 5-32 of an inch ; but queens vary very much in size. I think I have had occasionally a good queen that would nearly or quite go through a space through which a heavily loaded worker could pass. 2. I should guess yes, but do not know. 3. If J. G. N. is a plain practical bee-keeper, I answer yes ; if a hair-splitting theorist, there might be a shadow of chance for variation.—C. C. MILLER.

1. Five-thirty-seconds of an inch is ordinarily the proper width to pass a loaded worker and stop an ordinary queen. Queens vary in size, so that some may pass the above width of entrance, but practically it is right. 2. I think they are fully developed, but it is as yet a matter of opinion. 3. The deductions ordinarily made from the "Dzierzon Theory" are that she does. I cannot accept the idea, and believe that such drones are not absolutely pure ; but no experiments have been made as yet that positively determine the matter.—J. E. POND, JR.

Sub-Earth Ventilation.

Query, No. 124.—How can I secure sub-earth ventilation in my cellar which is on a level lot ? This cellar, in which I am to winter my bees the coming winter, is very damp, and the building site is on a very level piece of land. Can I get a current of air to enter the cellar by laying the 6-inch tile on a down-hill plan, and sink a hole 4 feet square at the outlet of this tiling ? I believe sub-earth ventilation to be a benefit to bees in the cellar, and also to the people living over them.—L. L. T.

The plan mentioned will answer every purpose, except drainage.—W. Z. HUTCHINSON.

The plan given will work, I should say, as I use something similar which gives plenty of fresh air, especially in windy weather—G. M. DOOLITTLE.

Yes, you can secure ventilation in that way, especially if you could let the warm air escape upward through a chimney.—DADANT & SON.

Yes, I think your plan would conduct heat out of the cellar, if opened in a cold time. I should go to no such expense. Keep your cellar up to 45° Fahr., and do not fear dampness. If it gets too warm, ventilate it at the top.—JAMES HEDDON.

Whether the pipe runs uphill or downhill you can secure ventilation if you have a shaft or chimney to make draft for the exit of the air. Sink the tile below frost-line the entire length, with fall enough to run off water, with a hole at the outlet still deeper to catch and remove the water drained off, so the pipe may never be clogged.—C. C. MILLER.

If the cellar is close, as it should be, and the air is drawn off by a pipe connected with a stove-pipe above, the air must come in through a sub-earth pipe. Be sure that the pipe runs a long distance—100 feet or more—beneath the surface below the frost-line. Sub-earth ventilation is not a mere hypothetical good ; it is of demonstrated value.—A. J. COOK.

Yes, a cellar can be well ventilated by the plan stated, and the health of a family living above it promoted, if a pipe 3 or 4 inches in diameter connects the cellar at a point 6 inches from the bottom, with the stove-pipe. A powerful current of air can be made to ascend through a 4-inch tube from a cellar at a temperature of 40°, to a room above it heated to 80° ; but if there is not a sub-earth pipe running 5 or 6 feet under-ground for some distance—100 or 150 feet—enough cold air can, by that means, be drawn into a cellar through crevices in its walls, to rapidly lower the temperature.—G. L. TINKER.

Keeping Bees in a Family Room.

Query, No. 125.—How will it do to keep bees during summer and winter in a room occupied for family use, and kept warm with a stove, the hives being so arranged that the bees can fly out-doors at all times, but not into the room ?—A. T. A.

I believe that experiment has been tried with the result that all the bees flew out-doors and staid out. At a temperature of 40° to 45°, such a room might do, but it would not do for a family living room.—G. L. TINKER.

It will not do, as the bees will breed too much in cold weather, and try to go out when the weather is too cold. —DADANT & SON.

House apiaries have not proved a success. Hundreds that were built in 1877, are now useless.—A. J. COOK.

I have seen this practiced in a number of instances, and with both success and failure, as far as the survival of the colonies was concerned. I think that an expert bee-keeper could safely winter and summer his colonies in that way, but it gives such poor facilities to handle them, that it will not likely become popular—JAMES HEDDON.

It would do first-rate if one wished to lose his bees, for such, in my opinion, would be the inevitable result. Such a plan seems to me to be against the natural laws that govern our honey-bees, and must prove disastrous.—J. E. POND, JR.

Dragging out Young Bees.

Query No. 126.—What is the cause of my nuclei colonies dragging out the young bees from the hives before they are dead, and even before they are half-grown ? They are piled up in front of the hives so the old bees cannot get out. The young bees are quite dark.—J. P. H.

The larvæ of the wax-moth causes such trouble when they work in the centre of the brood-combs. To get at them the bees must remove the brood. —G. M. DOOLITTLE.

Those young bees must be defective or unhealthy, or else the colony is starving. The latter case is more likely.—DADANT & SON.

It is difficult to answer this question correctly, so little data being given. I will hazard a guess that either moth-worms have got control, or else the bees are suffering for want of stores ; probably the latter.—J. E. POND, JR.

Possibly worms.—C. C. MILLER.

I have never seen anything of this kind, unless the bees were starving, and even then not to any great extent.—W. Z. HUTCHINSON.

It is very likely caused by the moth larvæ. Nuclei of black bees are sometimes seriously affected by moth-worms that move about in a web under the cappings of the brood. A neighbor box-hive bee-keeper lost all of his bees (5 colonies) the past winter, and obstinately refused to sell the old combs or melt them up. He declared if he could not rear bees he would rear moths, and he did. My bees were not harmed by them, but I saw a great many skeletons of moths before the entrances of the hives—moths killed by bees.—G. L. TINKER.

There are various causes, none of which you need to fear. I should wish to know more about the conditions surrounding your colonies, to even make a guess. In all questions of this nature, the descriptions are too indefinite.—JAMES HEDDON.

Bees sometimes drag out larval bees, because all gathering stops. If they are imago bees before they have expanded to their full proportions, I cannot answer. I hear such complaints from several. It is an interesting question. I have had nothing like it.—A. J. COOK.

Drones and Fertile-Workers.

Query, No. 127.—Can a drone from a fertile worker fertilize a queen? I am having more fertile workers this season than I ever saw. Whenever a hive becomes queenless, the fertile workers begin laying at once, but I have not had any trouble in introducing queens. I have had some queen-cells built around eggs from laying workers but I did not let them remain, for I was satisfied that they would do no good.—H. M. W.

Yes, why not?—DADANT & SON.

See answer to No. 123. I take it for granted that you have Cyprian or Syrian bees. No one wants the combs filled full of useless drones, if they can introduce queens without trouble.—G. M. DOOLITTLE.

Yes, I feel certain that there can be no doubt of it. Not only are their organs perfect, but the sperm-cells are active, and there is no reason to doubt but that they are functionally perfect.—A. J. COOK.

I do not think that a drone from a laying worker is virile. H. M. W. has Syrian or Cyprian blood in his bees. I have had more than 2,000 of these little drones from laying workers, but colonies of Syrian bees, or those having Syrian blood, do not act like Italians or blacks having laying workers, about tearing down queen-cells of their own construction, or killing the virgin queens as they are about to take their bridal trip. There is never any trouble with these bees from laying workers unless the queen they have reared is lost or removed before becoming fertile, or very soon after. Then we are obliged to introduce a laying queen, which they accept readily. If given brood they will rear a queen and allow her to become fertile, but they will also rear a small colony of drones at the same time. Under these circumstances every bee appears to be able to lay eggs. I have had less trouble with them than with Italians or blacks, because I could always introduce a queen.—G. L. TINKER.

This question is practically answered in my answer to No. 123. I consider the drones from a virgin queen and those from a laying worker to be of precisely the same value; and I am of the opinion that they are fully developed and capable of fecundating a queen At any rate they possess the organs of generation as full and complete as those from a fecundated queen.—J. E. POND, JR.

Arranging the Hive for Winter.

Query, No. 128.—Would it be advisable when preparing bees for winter, to place the combs that the bees are going to winter on, in the upper story, and then place the upper story on an empty lower story? If this were done, the dead bees and foul air could settle to the bottom, and the warm air stay at the top.—W. S.

It might do well.—C. C. MILLER.

After a trial of the plan, I think the gain (if any) is not equivalent to the extra labor that must be performed.—G. M. DOOLITTLE.

It allows the dead bees to drop out of the combs; farther than this I do not know that it is a benefit.—W. Z. HUTCHINSON.

This experiment might be tried. We have never tried it, but we are inclined to think that it would be rather cold in a cold winter.—DADANT & SON.

I believe there is some advantage in this open space below the combs. I think 2 or 3 inches all-sufficient. Colonies have wintered nicely, both with and without it.—JAMES HEDDON.

Bees would, no doubt, winter very well by the plan indicated, if the upper story was well protected. I do not, however, see the necessity for the lower story, as if properly protected there will be few dead bees, and the foul air will pass out of a large entrance.—G. L. TINKER.

I have often wished that without trouble I could elevate all the bees a little above the usual position. If as well protected I cannot see any danger in following the above suggestion; while I can see possible good.—A. J. COOK.

I do not think it would. I may be wrong, but I have tried just this experiment and made a failure every time. Dead bees may settle to the bottom, but foul air will hardly do so. It hardly pays to experiment in wintering, that is, to do so by leaving the old beaten track that has been traveled with comparative safety for many years.—J. E. POND, JR.

Wintering Bees in a Bee-House.

Query, No. 129.—Would bees winter safely in a bee-house so constructed that each colony would be enclosed in chaff-packing, the same as in a chaff-hive, with arrangements to close the outside entrance on the approach of cold weather, and give them ventilation from the inside where the wind cannot blow in upon the bees, even though the temperature might be nearly as low inside the house as outside?—Seymour, Wis.

I think they would.—G. L. TINKER.

If the temperature in the cellar is allowed to reach a low point, the hives should certainly be protected.—W. Z. HUTCHINSON.

I should prefer to leave them on the summer stand, where chaff packing is used.—G. M. DOOLITTLE.

Theoretically it looks all right, but practically I think it has never been made a success.—C. C. MILLER.

Low temperature is the demon that slays our bees. I should not like the plan suggested. We must keep the temperature up either by using a cellar, or by wise packing.—A. J. COOK.

It would be very good for wintering, but we are opposed to a bee-house for summer manipulations. At any rate you should have it so arranged as to let the bees fly on warm winter days.—DADANT & SON.

No one can tell with certainty. Bees winter with protection and without it. They are lost, too, under the same circumstances. It is one of those things that no one can tell, and experiments really prove nothing, for one season one plan works well, and fails the next. The best plan is to adopt the method that has most generally proven safe, and stick to it.—J. E. POND, JR.

I should prefer to have them out where the snow would drift about the hives, and where the sun could shine upon them at other times. Do not put bees inside of a cold repository; but if you do, keep its temperature up to 45°, or leave them out to get the advantages of out-door wintering.—JAMES HEDDON.

Convention Notices.

☞ The Maryland, Virginia and West Virginia Bee-Keepers' Association will meet in the Court House at Hagerstown, Md., on Oct. 21, 1885, at 10 a. m. D.A.PIKE, *Pres.*

☞ The Progressive Bee-Keepers' Association, of Western Illinois, will meet at Macomb, Ills., on Thursday, Oct. 15, 1885. Let everybody come and have an enjoyable time. Good speakers are expected.

J. G. NORTON, *Sec.*

☞ The New Jersey and Eastern Bee-Keepers' Association having accepted an invitation to meet with the Mercer County Board of Agriculture, of Trenton, N. J., will hold their semi-annual convention in the Grand Jury Room of the Court House at Trenton, N. J., on Thursday and Friday, Nov. 5 and 6, 1885, at 10 a. m. A full attendance of the members is requested. To all persons interested in our vocation, we extend a cordial welcome. The committee of arrangements have secured hotel accommodations at reduced rates.

WM. B. TREADWELL, *Sec.*

☞ The Western Bee-Keepers' Association will hold its fourth annual meeting in Independence, Mo., on Thursday and Friday, Oct. 15 and 16, 1885. The Association will endeavor to make this the most interesting meeting yet held, and will spare no pains within its means to make it valuable to all. Several of our most prominent bee-keepers have signified their intention to be present.

C. M. CRANDALL, *Sec.*

☞ The 4th semi-annual meeting of the Wabash County Bee-Keepers' Association will be held at North Manchester, Ind., on Oct. 10, 1885, in the G. A. R. Hall, Union Block. First session at 10 a. m. All bee-keepers are cordially invited to be present.

J. J. MARTIN, *Sec.*

☞ On account of the great rain on Aug. 29, the meeting of the Marshall County Bee-Keepers' Association was postponed until Saturday, Oct. 17, 1885, when a meeting will be held at the Court House in Marshalltown, Iowa, at 10:30 a.m. Subjects for discussion—"How to winter bees successfully," and the "Care and Sale of Honey." Bee-keepers of adjoining counties invited. J.W.SANDERS.

CORRESPONDENCE

Explanatory.—The figures BEFORE the names indicate the number of years that the person has kept bees. Those AFTER, show the number of colonies the writer had in the previous spring and fall, or fall and spring, as the time of the year may require.

This mark ⊙ indicates that the apiarist is located near the centre of the State named: ♂ north of the centre; ♀ south; O+ east; +O west; and this ♂ northeast; ~O northwest; O~ southeast; and ♀ southwest of the centre of the State mentioned.

For the American Bee Journal.

Eight or Ten Frame Hives?

JAMES HEDDON.

Mr. Dadant, for some reason or other, entirely ignores my argument in favor of smaller brood-chambers, which is based upon the undeniable fact that the capital is invested in other than the queen. From the way in which Mr. D. speaks of the fertility of the queen, one would think that the way we became vested with bees was by the purchase of a queen, and the vender threw in the other "fixings" to make up a surplus honey outfit. The most of Mr. D's article, on page 585, seems to me to be simply an aggregation of assertions.

Regarding his statement that European apiarists are growing more in favor of large brood-chambers, I will say that I know but little about that. As far as this country is concerned, there has certainly been a steady growth just the other way during the last 20 years. It is true, as Mr. D. says, that I wish to have my brood-chambers come out almost destitute of honey when the gathering season is over for the year, and while small contractable brood-chambers do not necessitate such a condition of the hives, they admit of a practical, speedy system of manipulation that will bring it about at the option of the bee-master. Such cannot be said of the large brood-chambers.

Mr. D. mentions that with a large brood-chamber we need not feed so often in the spring. With my small ones I do not practice feeding in the spring at all. I find no need of it. He also says that "at all times the large brood-chamber is stronger and can better stand the 'ups and downs' of the business." This does not prove to be the case. The greatest "down" of the business is the dying of our colonies in winter with bee-diarrhea. It is the general experience, that very populous colonies are more liable to have that disease that those of average strength. Mr. Adam Grimm wintered his bees as safely after he adopted the 8-frame hive. Mr. Bingham, with his little flat brood-chamber of a capacity of not more than 5 or 6 Langstroth frames, is now among our most successful ones in wintering, and he winters his bees out-doors, at that. I find that it costs more to produce 100,000 bees in one hive with 16 combs and one queen, than in two hives with 8 combs and 2 queens.

All along Mr. Dadant says nothing for or against the small brood-chamber and "contraction system" as especially applied to the production of comb honey. I suppose it is because he is a specialist in the production of extracted honey, and thus has had little experience with it in producing comb honey. As regarding this, in connection with extracting, it is mostly summed up in a matter of convenience. Perhaps it makes little difference to the bees whether they have 24 combs in two stories or three, in which to breed, and store honey. I presume that one would notice no difference in the amount of bees and honey he would receive from the two plans; but for comfort in handling, and compactness of the winter brood-nest, I do not want my hives more than 8 combs wide. Nine "ranges" are as many as I wish.

Mr. D. says that with the large hives we "do not have to buy sugar to feed." As before stated, neither do we who use small hives, unless we desire the change of diet, and when we do so make a change, we get the honey to more than pay for the syrup fed. Small brood-chambers and optional contraction do not discourage bees, causing them to gather and store any less honey; they only give the bee-master the power to operate in such a manner as to have it nearly all go into surplus comb honey when he so desires.

The truth will surely come uppermost, and I am perfectly confident that small brood-chambers, so arranged as to admit of quick contraction at the right time, will be universally adopted in the near future. Messrs. Hutchinson, Bingham, Doolittle, and in fact nearly all of our most successful comb honey producers are now leading in this—the right direction. Should Mr. Dadant ever devote all his energies to honey production, and live where most of the surplus is white honey, I feel confident that he would see that *comb* honey production was by far the most profitable for him, and then he would soon join us in the use of brood-chambers of a lesser capacity, and so arranged as to be quickly contracted at will.

Dowagiac, ♀ Mich.

Western Maine Convention.

The Western Maine Bee-Keepers' Association held their semi-annual meeting at the residence of Pres. W. W. Dunham, North Paris, Maine, on Sept. 1 and 2, 1885. The meeting was called to order by Pres. Dunham, the roll was called, and the report of the Secretary read and approved, after which questions in practical apiculture were discussed.

The first, "When to prepare colonies for winter," called forth the following discussion:

Mr. Fuller: If I were running my apiary for extracted honey, and removing all the honey, I would feed my bees now so as not to disturb them after the nights become cool. I believe in syrup for winter feed. I should not feed late enough to cause unnaturally late breeding, so as to have any bees go into winter quarters without having had a flight.

Mr. Crawford: If feeding is necessary, it should be done in the latter part of September, or as soon as frost cuts off fall flowers.

Wm. Sweet: I have fed a small colony all winter, causing them to breed and come out strong in the spring. I winter my bees in a shed packed with six inches of chaff.

Mr. Goff: I believe in feeding early and keeping the colonies rearing brood as late as possible.

Mr. Dunham: Locations differ. I should feed bees late in October. My principal honey-flow is from basswood. I do not have enough after that to keep up lively breeding. I generally feed syrup to stimulate my bees, made of two pounds of water to one pound of sugar, and not later than October. I would feed all that was necessary to winter on, as rapidly as the bees would take it.

Mr. Wellcome: I begin in August to prepare bees for winter. I leave the stores in, and consider it hard to give a rule, as seasons vary very much.

W. Mason: I would not begin as early as August, if I used contracted brood-chambers. I should want all the young brood that August could give, so as not to go into winter quarters with a lot of worn-out bees.

J. B. Mason: I would advocate reducing the brood-chamber to seven frames, on removing the sections, or there would be stores in too many frames if we allow the bees to use their own stores. I would begin with the first frosts to feed enough additional stores to be sure the colony was well supplied, and would not have their stores on less than five or more than seven frames.

Mr. Pike: I want the stores in the hives by the middle of October. I always feed my bees in September. I have lost by feeding bees too late. I always winter my bees in the cellar.

The question, "What bees are best adapted to our climate?" elicited some discussion, the conclusion of which was that all had failed to discover any difference in the races of bees, in that respect.

The President, in answer to the question, "Is it better to feed honey or syrup?" said that honey was undoubtedly better, but as a matter of economy, he should feed syrup. Also in answer to a question as to how he kept colonies from swarming but once, he replied that he cut from the frames all but one queen-cell, and thus prevented it.

The afternoon session closed with an essay on "Showing our Products at the State Fair," by J. B. Mason.

EVENING SESSION.

The evening session commenced at 7:30, the President calling attention to Mr. Mason's essay, and for remarks regarding exhibits at the State Fair.

Mr. Mason: I am much interested in this exhibit. I promised to fill one wing of the building. We all ought to exhibit and make this department interesting. I hope that all will make some kind of an exhibit.

Mr. Fuller considered it a hard matter to arouse enthusiasm. It was not the premium but the advertisement that would be a benefit to all producers of honey.

Mr. Mason: Several have pledged themselves to make an exhibit. Last year we had a committee to confer with the managers of the State Fair, but as we could not promise exhibits, we did not get an increase on the premium list. We must promise to exhibit, and turn out with our products, in order to increase an interest, advertise our business, and benefit both ourselves and the State.

Mr. Wellcome: I think it a pity that a pursuit like bee-keeping should go unrepresented. It has been greatly neglected at our Fairs, and it is incumbent upon us to awaken an interest. We should manifest the same enthusiasm as is shown in other departments of agriculture.

The question, "How many bees is it best to rear for a colony to be placed in winter quarters," was next discussed.

Mr. Mason: A colony might be too large. I usually do not have so good success with an unusually large colony. In such cases I would divide it or else take some of the surplus bees to build up small colonies. The question is whether an overcrowded colony will do better than a medium six or seven frame colony. I do not wish to be understood as advocating small colonies, but good, fair colonies instead of overcrowded ones.

Mr. Crawford: It is important to know that we have a young, prolific queen to get young bees for winter.

"How much should a colony be fed to properly stimulate breeding in the spring?"

Mr. Dunham: A colony ought to be fed liberally. We miss it by feeding too little. It is said an ounce a day is as good as more.

Mr. Mason: If stores are plenty in a hive, I would feed both at morning and evening, one ounce to keep the queen laying. It would not be advisable to feed in the morning if any honey is coming in.

Adjourned to meet at 9 a. m. on the next day.

SECOND DAY.

The first in order was an essay by Mr. L. F. Abbott, of the Lewiston *Journal*, on "Marketing Honey," which was read by the President.

This essay called out a lively discussion regarding the size of honey-packages, especially extracted honey. It seemed to be the prevailing idea that honey should be put in such shape that it could be retailed for even change, many expressing their belief that a 25-cent package was one best calculated to sell on the open market. Nearly all who had used fruit-jars find it difficult to get pay for the jars also.

Mr. Dunham believed in exact pound packages, not counting the weight or value of the glass or box enclosing the same, and charging for the boxing, glassing, etc., extra. He would weigh each package of comb honey and mark it accordingly.

Mr. Mason: That might do to retail to home customers, but the case would be much different in the market.

In answer to the question of how much honey should a colony have to winter safely, Mr. Mason said, "Twenty pounds, at least."

"How shall we estimate the amount of stores in a hive at the commencement of winter?"

Mr. Dunham: A full frame of honey weighs about eight pounds. Taking that as a basis, use judgment on the amount in the hive, and feed additional syrup, enough to make sure of plenty of stores.

"Is it advisable to remove from the hive those frames containing pollen, (such as are nearly full), on putting bees into winter quarters?"

Mr. Mason: I remove all that are full or nearly so. and return them in the spring. If short of stores, a colony might use too much pollen. I would consider it safer to remove such combs. I have found combs partially filled with pollen, having honey stored over the pollen, and sealed. I would not consider this good winter food.

The habits of the colony during winter were discussed at some length, nearly all giving more or less experience in winter work. Many interesting points were evolved during visits to the extensive apiary of Mr. Dunham.

The following resolution was unanimously adopted:

Resolved, That the thanks of this Association are due Mr. Dunham and family for their generous hospitality.

The convention then adjourned to meet on the first Tuesday and Wednesday in May, 1886, at the residence of Mr. J. B. Mason, Mechanic Falls, Maine.

For the American Bee Journal.

Small Hives vs. Large Hives.

W. Z. HUTCHINSON.

The following is a portion of an article prepared by me for the *Cultivator*, giving my views on the topic of "Large and Small Hives:"

How persistently most bee-keepers cling to the idea that their profits are increased in proportion to the increased yield per hive, or colony! Success does not depend on large yields per colony, but on securing the largest possible quantity of honey, in the aggregate, with the least possible expenditure of capital and labor. The question is something like this: Here is an area covered with honey-producing plants—how shall we gather this honey so as to exhaust the field, with the least expenditure of capital and labor? It is not, how shall we secure the most honey per hive?—as if we were limited as to the number of hives we should use, for we can use as few, or as many, as we like; it is of no practical importance whether it is stored in ten hives or a hundred.

If queens cost a good round sum, there would be some excuse for large hives, or rather, large brood-nests; and queens would, to a certain extent, be valuable in proportion to their prolificacy. Of course when we rear queens for the market they cost something, as colonies are employed in building cells, others are broken up into nuclei in which to keep the young queens until they are fecundated and begin to lay. Considerable time has to be spent in attending to the business; and there are expenses for shipping-cages, postage, advertising, etc., all of which make queens cost something when they are reared to sell. But in an apiary run for honey, in which the bees are allowed to swarm and rear their own queens, the cost of a queen is practically nothing; while hives, combs and fixtures do cost something, and it is that they may be all employed, that we reduce the size of the hives to such capacity that the average queen will keep it full of brood.

Mr. Dadant says, and truthfully too, that when large hives are employed the bees are less apt to swarm. But if they do swarm, we hive them, and it takes no more combs or hive-room, to accommodate them, than it would had they remained in the old hive, and the bees will store just as much honey in the new hive as in the old. In fact, many bee-keepers say that more honey is secured when the bees are allowed to swarm at least once. When this idea was advanced—that queens cost nothing — Mr. Dadant said that they "cost the colony 30 days without breeding." Mr. Dadant seems to forget that the old queen is laying, and that breeding is going on in the new colony, to an extent equal to what would have been done in the old colony had it not swarmed. He has also exaggerated the time that a colony is queenless, when it swarms. It usually has a laying queen in 18 days after it swarms; and, with the Heddon method of preventing after-swarming, all the laboring workers are drawn from the old hive to the new at the seventh day after swarming; hence, the bees are left so weak in numbers as to be able to care for but little brood if they had a queen. For a few days before a swarm issues, the queen does not lay at her maximum rate, and it is possible that Mr. Dadant includes this time in making up the "thirty days."

Mr. Dadant also objects to reducing the brood-nest to five frames when hiving swarms, saying: "Indeed, it looks as if he (Mr. Heddon) thought the less bees we have the better." He seems to forget that we have eight frames at the beginning of the honey harvest, when the production of bees is important. We need bees when there is honey to gather; after the honey harvest is over we do not care for them; then they are consumers, not producers. Having bees at the right time is one grand secret of success; and, having gotten the bees, another secret is to get them to gather honey and store it in the most marketable shape; and this we do by contracting the brood-nest and compelling the bees to store the honey in the sections.

Another writer says that he has contracted his hives, but the queens will not occupy the two outside combs, even if the brood-nest is reduced in size to only three combs. I think his management is at fault somewhere; I have never seen any such results in the three years that I have practiced this method.

When working for extracted honey, large brood-nests, or hives, are not so undesirable as when producing comb honey, as the honey can be extracted from the brood-nest.

Rogersville, ♂ Mich.

For the American Bee Journal.

St. Joseph, Mo., Convention.

An adjourned meeting was held at St. Joseph, Mo., on Friday, Sept. 25, 1885, at 2:30 p. m.

A permanent Society was organized, by the adoption of a constitution and by-laws, to be known as the "Saint Joseph Inter-State Bee-Keepers' Association." Officers were elected as follows for the ensuing year:

Pres., Ernst Schuman, of Breckenridge, Mo.; Vice-Presidents, G. D. Parker and Robert Corbett; Secretary, E. T. Abbott, Superintendent of the "St. Joseph Apiary;" and Treasurer, Dr. J. L. Ellingwood, of Saint Joseph.

The following paid the annual fee of $1, and became members of the Society: E. T. Abbott, L. G. Purvis, T. B. Nichol, John C. Stewart, G. B. McArthur, Rev. A. F. Abbott, F. G. Hopkins, Jas. A. Matney, D. G. Parker, E. Eastman, J. L. Ellingwood, and Ernst Schuman.

After the election of officers there was some interesting discussion of various questions relating to bee-culture, and then the convention adjourned to meet on the second Thursday in April, 1886.

All persons interested in bees are invited to apply to the Secretary for a copy of the constitution, and become members of the Association.

E. T. ABBOTT, *Sec.*

American Apiculturist.

Italian Bees, Robbing, etc.

REV. L. L. LANGSTROTH.

When the Italian bees came to this country they brought with them this character, from the Baron of Berlepsch: "They are more disposed to rob than common bees, and more courageous and active in self-defense." Experience soon convinced me that while Berlepsch was right in the second of these two assertions, he was entirely in error as to the first. Let me give some facts:

On one occasion I was examining a colony of bees, when a visitor was announced. Intending to return in a few moments, I left the hive open while several combs were resting against it on the outside. I forgot all about this hive until my visitor asked if there was not robbing going on in my apiary. We went at once to the neglected hive, which was now surrounded by thousands of robbers. The bees on the combs which were outside were vainly striving to protect them, while the robbers were literally swarming upon them and forcing their way into the exposed hive. Many were killed; but we all know that under such circumstances this makes no difference. Putting back the exposed combs, thereby shaking off the bees, and replacing the cover of the hive, but leaving the whole front entrance open, we watched the result. In a few moments the bees had their line of battle spread over all the alighting-board extending down from the floor of the portico quite to the ground. The dying and the dead were dragged out in large numbers. Every robber that dared to alight where this line of embattled Italians was formed, was attacked, and if he could not pull away, was quickly killed. The robbers soon understand the changed condition of affairs, and in less than half an hour the attack is over.

Under such circumstances I never contract the entrance. It annoys the bees by making their hive too hot, and with Italian bees it is a useless precaution. When such robbing as I have described, sets in, it is amusing to see the robbers, when fairly beaten off, spread themselves everywhere over the apiary. Wherever they have tasted a drop of honey that they have not gathered from the fields, there they are hoping to find more, and if there is a colony or nucleus from which they have stolen anything, they are there too. In short, every colony, large or small, is put to the proof, and their ability to defend their stores fully tested, but it is almost impossible to rob, when it is in good heart even a small nucleus of Italian bees.

Need I say to those who have had much experience with black bees, what would have been the fate of this colony if it had been of that race, or how much a whole apiary of such bees would have been demoralized by such an occurrence?

Let me now relate something which took place about two weeks ago. In examining a very strong colony which had only a slight touch of Italian blood, robbers soon made their appearance, and the hive was closed before the queen could be removed. I say closed, but the upper cover had not been properly adjusted; there was quite a corner left open. Attracted by the roar of bees, I found that this large colony was being robbed. The cowardly black blood had not proved equal to the emergency. When the cover was shut tight, there was no line of battle formed, resistance had ceased, and it was necessary to close the entrance, cover the whole hive with wet cloths, etc., in order to save it. Of course the robbers fell upon the other colonies, several of which were quite weak. Some of these were pure Italians, and the others had enough of that blood to make such a fierce resistance that the robbers were soon beaten off. They had tasted stolen sweets, they were crazy with excitement, and yet they could not rob another hive!

If only a few of these colonies are in, or near to a large apiary of Italian bees, one will ever find them on hand when there is any chance of stealing, and at times when scarcely an Italian gives any annoyance.

I do not deny that there are a few points in which black bees have superior merits, but their eagerness to rob when forage is even a little scarce, and their deficiency in pluck, by which they are so often ruined, where the yellow races would not be severely injured, are, with me, sufficient reasons for discarding them.

Oxford, ♀ O., August, 1885.

For the American Bee Journal.

Bee and Honey Show at London, Ont.

WM. H. WESTON.

The Provincial and Dominion exhibition of Canada has just been held, at London, Ont., and the show of honey and apiarian supplies was very good. There was a much larger number of entries this year than last, and the space appointed for such goods was much too small, so much so that a large quantity had to be shipped to Toronto, Ont., for exhibition there.

The show of extracted honey was good, the quality being first-class, but there was a sample shown that was so white that it looked as if it had been adulterated in some way, although it was shown against some of the finest basswood honey. The show of comb honey was not so large as usual, owing to the wet weather and other causes, I presume. A short account of some of the most important exhibits, as they appeared in the Honey Hall will, no doubt, be interesting to many. They were as follows:

Mr. John Rudd, of London, made the finest display of apiarian supplies in the building, comprising everything used in modern bee-keeping, from the extractor down to the drone-trap, not forgetting to include the AMERICAN BEE JOURNAL. He has a very handy way of selling honey by cutting a one-pound section in six pieces and serving it to customers on a sauce-plate, allowing customers to sample it for a consideration. Mrs. Rudd says that she has sold nearly all the honey she had in stock.

A good display of both comb and extracted honey was made by Mr. D. P. Campbell, of Parkhill, Ont. His honey was in good form for shipping.

Mr. R. H. Smith, of Ealing, was another exhibitor. He secured the first prize for comb honey. He said that he secured a very small quantity of comb honey this year, but what he did get was of good quality, and it was taken from a colony of black bees. Mr. Smith showed a queen-nursery for the Jones' hive.

Mr. J. W. Wheally's exhibit, of Lakeside, attracted the attention of the many visitors with a very tasty show, and his goods were in splendid condition for shipping. He showed both comb and extracted honey. Mr. Jos. Aches, of Amiens, had, as usual, a grand display of both comb and extracted honey, and also queens, although the weather was so cold that it was not advisable to bring a large collection.

There was also some very fine extracted honey exhibited by Mrs. F. Lingard, of Mitchell. A number of other exhibitors showed honey, but not in good shape, and the honey was not placed with the rest of the exhibits.

London, Ont.

Indiana Farmer.

Preparing Bees for Winter.

F. L. DOUGHERTY.

The question of safe wintering of bees is probably the most important subject among bee-keepers, and is less understood than any other part of the business. There are many who winter their bees very successfully, but their plan in other hands or in different localities makes utter failures. Again the same plan may be followed year after year with perfect success, when from some unknown difference it proves valueless. There are, however, some general features in connection with safety on which most all agree.

The amount of stores necessary for the safe wintering of an ordinary colony of bees should not be less than 25 pounds. Some will consume less than others; all will consume less, or more, according to the condition of the winter weather and its duration. The quality of the stores on which they are to subsist has much to do with the probable outcome in the spring.

Another feature, and one which I consider of the greatest importance, is the age of the bees which are to form the winter cluster. I think there can be no mistake but that the life of the bee is governed entirely by the amount of work done, and not by the time consumed in doing it. In localities where no fall honey is produced, bees that hatched during the latter part of June and through July, have but little work to perform, and will last until the latter part of December. No fall honey coming in, but few young bees are reared, which at the death of the older ones, leaves the cluster too weak to withstand the winter. On the other hand, gathering a good crop of fall honey soon exhausts the old bees, but the flow of honey induces brood-rearing, which will leave the winter cluster composed almost entirely of young bees, which, with other favorable conditions, almost insures safe wintering.

I consider protection from dampness more necessary than from the severe cold, as the first condition enables them to resist the latter. There is a moist vapor constantly arising from the cluster. I have seen this carried to such an extent as to completely enclose the cluster in a crust of ice. My experience leads me to believe that the escape or absorption of this moisture is an important necessity, and for this purpose I find nothing better than forest leaves, with which to pack the second stories of hives. Cloths that have been in use on the hives for any length of time become so propolized as to be impervious to water, and consequently I provide an opening to the leaves by turning back one corner of the cloth, but stop any direct upward ventilation by packing the leaves over the opening. In former years, much more so than now, it was my practice to reduce the size of the brood-chamber by the use of division-boards, but I do not consider this of any great importance except in the case of very small clusters. By a consumption of the stores on which the bees are clustered, it becomes necessary for the cluster to change position on the combs, and provision for this change must be made by allowing space for the bees to pass from one frame to another. The best point for this is directly over the cluster, and I provide this there by laying short sticks across the frames in such a manner as to keep the cloth from settling down on the top-bars of the frames.

Unhealthy stores are gathered at times by the bees in the vicinity of cider-mills and like places. I see the recommendation frequently given to throw this out of the combs with the extractor; but I much prefer feeding additional stores of syrup made from good sugar; this will neutralize the poisonous effect of the juices gathered from frosted plants or decayed fruit.

Indianapolis,⊙ Ind.

For the American Bee Journal.

Notes on the Ontario Convention.

BY OUR OWN CORRESPONDENT.

In point of attendance the recent Ontario Bee-Keepers' Convention was almost a failure. There was a quorum present at every session, but many were conspicuous by their absence. This may easily be accounted for, without suspecting any decline of interest in apiculture. In the first place, two great exhibitions were in progress during the week in which the convention was held—the Provincial, at London, and the Industrial, at Toronto. The former lasted but a week, the latter two weeks. Manifestly the bee-keepers should have been called together during the second week of the Toronto Fair. "Somebody blundered" in fixing on a time when the interest and attendance could not fail to be divided. Then, in the second place, the notice given was insufficient. It was published only in the Canadian bee-paper and in the *Rural Canadian*. The officials will do well to "make a note on't," and take care that these mistakes are not repeated another year.

Whatever may have been the shortcomings of the convention, the exhibition of honey and bee-keeping requisites was a brilliant success. To those who saw the show two years ago, when the North American Bee-Keepers' Society met in Toronto, it will be enough to say that the recent display was a far better one than that then witnessed. For the information of others, a few particulars may be given as follows:

The spacious honey-building was entirely too small for the exhibits. There were complaints that the space at command was not evenly allotted. Be this as it may, it was to be regretted that some were crowded into a corner, who had the wherewith to have occupied large room to excellent advantage. This was especially the case with Mr. J. B. Hall, of Woodstock, our chief producer of comb honey, and, in all respects, a first-class apiarist. He was cooped up in a narrow, inconvenient place, where it was impossible for him to do himself justice. If this could not be helped, it was, to say the least, very unfortunate. It is with some people at exhibitions as it is aboard railroad cars—they are not willing to divide fairly with their neighbors.

On entering the honey-building, two gigantic pyramids met the view, made up of different-sized vessels and packages filled with the toothsome delicacy. Along the walls were kegs, large cans, and cases, topped off with the smaller and more fanciful parcels down to little tins containing only a couple of mouthfuls of honey. Depending from the ceiling were pictures of the principal honey-producing plants of this and other countries—to the number of about 300. Of these over 100 were entirely different varieties. Several uni-comb glass cases were placed here and there to enable visitors to see the bees and their queens. There was a large array of bee-keepers' requisites, including extractors, comb foundation, smokers, perforated-zinc, wire gauze, drone-traps, queen-cages, reversible frames, feeders, veils, and, last but not least, bee-books. Outside, there were hives, bee-tents, winter bee-houses, and various other "fixins."

The prize-list was unusually large and liberal, and the directors of the Industrial Exhibition deserve much praise for the encouragement given to this important industry. Mr. D. A. Jones gained some 20 prizes; Mr. J. B. Hall about half that number; E. L. Goold & Co. the same; while the names of D. Rainer, Will Ellis, W. Goodyear, J. F. Ross, Granger & Duke, Jacob Spence, and others, figured honorably on the list. The judges did their work patiently and faithfully, but some of the prizes should have been adjudged by the test of best results. As examples, may be mentioned: "Method of securing the largest yield of surplus comb honey;" "best system of manipulating sections;" "method of wintering bees out-doors in any kind of hive." The bee-keepers' diary, cash account, and annual stock-taking furnish the proper data for these and similar awards.

For the American Bee Journal.

Wintering Bees, etc.

30—WM. H. BALCH, (31—81).

The middle of October, 1884, found me with a part of my bees short of honey, but with plenty of pollen. Well knowing what would be the result, from sad experience in former years, and the season being near its close, and also remembering the oft-repeated caution from the bee-fraternity, "Honey or syrup must be sealed over by the bees in order to be of real benefit in wintering," it may easily be imagined that I was in something of a dilemma. Twenty hives were weighed and found wanting—averaging about 15 pounds of stores in each hive; this being composed of from ¼ to ⅓ pollen. In my reasoning I came to these conclusions: 1. The stores in these hives are just what are needed when brood-rearing commences in the early spring. 2. The brood-nest should not be disturbed so late in the season, as I had found that handling bees late in the season often causes their death before warm weather comes. There was no surer remedy than to cover up those stores with something, and I thought that "something" must be feed of a nature not to induce brood-rearing. Having never had to feed in the fall, I was ignorant in real practice of preparing food, but concluded to feed a part of them according to Mr. Doolittle's plan of mixing two parts of granulated sugar with one of water; and the remainder according to Mr. Root's method—three parts of sugar to one of water.

Time, with me, is money; so I reasoned thus: What object is there in boiling the syrup and taking the chances of scorching it? it had been boiled when made into sugar. I measured the water (what I could conveniently handle at one time in my extractor), heated it to the boiling point, put it into the extractor with the sugar, stirred it until the sugar was dissolved, and then while it was yet warm, I fed it. Not having feeders, I raised the front end of the hives, the bottom-boards being high enough to contain what feed was necessary for the required amount that was to make each hive have 30 pounds of stores exclusive of hive and bees. In from 24 to 36 hours it was all taken up.

Two weeks afterward, or about Nov. 1, I placed a part of those so prepared, in the cellar, and apart were prepared as follows: I dug a trench in the earth, the ground being gravelly, such as water never stands on. This trench was 15 inches deep and one foot wider than the length of two hives. Sticks were placed crosswise, then narrow boards lengthwise, the hives being placed on in a double row, back to back, the rows being 5 or 6 inches apart to prevent one colony from crawling into the hive of another, as is often the case, and sometimes several will crawl together and perish for want of sufficient food.

After placing the hives in proper position, a stout pole was placed two feet above the hives, and held by supporters. Then sticks and boards were cut to a proper length and placed on the ground and leaned against this ridge-pole. These were covered with straw, and the whole covered with earth one foot deep at the bottom and 6 inches at the top.

Now for the results: There was but little difference between those in the clamps and those in the cellar, the favor being with those in the cellar. All were alive. Those fed on two parts sugar and one part water were in fair condition, and those fed on three parts sugar and one part water were just a-booming. The remainder (21 in number) of my apiary had plenty of this poor stuff to winter on, and that were not fed, were carefully prepared in a way with which I have had the best success in former years, much better than with cellar-wintering. They commenced to breed in January, and the consequences were that one-third were dead with a large amount of brood, some having six frames with brood, three starved, and the rest had plenty of stores. All of this latter class were in hives containing 13 Langstroth frames. The remaining two-thirds just pulled through, not being worth half-price.

EXPLICITNESS IN DESCRIPTIONS.

On page 602, Mr. R. S. Torrey has given his method of wintering bees; but like many of us he failed to give some important points. He says: "I take all their honey from their sides and place it immediately over them, in the top of the hive, putting all the empty combs in the lower part of the hive for the bees to cluster upon." This is a very good plan, indeed, but he does not say whether he uses a 2-story hive, nor whether he produces extracted or comb honey. If he produces comb honey, he must get it on top of a 2-story hive, or else he would not have empty boxes to put below, as the idea is conveyed that the hive is full of frames above and below; if not, he should have stated what was to be done with the empty space on either side of the bees after taking out the honey.

Again, he says: "I then make a whole box without top or bottom and set it over the hive, the box being large enough to leave 3 or 4 inches of space between the outside of the hive and the inside of the box." Now, mark you, he says a whole box placed over the hive, and this to be filled with sawdust, as he considers that the best packing-material. Of course the idea is conclusive that the bees are shut in with this outer shell, and the packing around the hive, as there is not one word about an entrance in the *whole* box without a *cover*.

Writing in such a general manner as the above, is more liable to do the beginner more harm than good. I simply call attention to this because of the fact that the majority of us who write do it for the benefit of the inexperienced, hoping, by our experiences, to benefit them in the art of bee-keeping. Let us strive to be more explicit in our descriptions, for I have found that some very small things—some things which, unless seen by a close observer, would be passed unnoticed—are the real secrets of success in the art of apiculture.

Oran,⊙ N. Y.

Prairie Farmer.

Honey Gathered from Corn.

MRS. L. HARRISON.

There has been considerable discussion among bee-keepers relative to the merits of corn as a honey-producing plant. This morning (July 31) my attention was called to a patch of sweet-corn, and, on investigating, I found from one to seven bees at work on every hill. Some of the corn is in tassel, while more of it is quite small, owing to a failure of seed to come up, and having had to be replanted several times. Bees were working upon it all alike, and where it was in bloom it was not the place of attraction, but the arils of the leaves close up to the stalk. If it had been water that they were seeking, they could have gathered it in abundance upon the leaves, as they were dripping with dew; and if pollen had been the object sought, the full-blown tassels would have been visited. I have noticed this phenomenon several times, and from observations conclude that, when the electric conditions are suitable, nectar is secreted from the stalks during the night, and runs down to the arils of the leaves where it finds a receptacle, and is appropriated by the bees. I have never had an opportunity to observe whether common field-corn yields this nectar or not.

Bees are very irritable when there is no honey to be gathered, and are ever on the alert to discover it. Yesterday I was amused by their awkwark flight, in descending the chimney of the honey-house, and I had to paste paper over the stove-pipe hole to keep them out.

Kerosene rubbed on the hive-entrances will soon put to flight robbers that are seeking an entrance.

Peoria,⊙ Ills.

For the American Bee Journal.

The Season, Wintering, etc.

B. NOVICE.

Last spring I bought 2 colonies of hybrid bees in Eclectic hives, and already they have more than paid me for my investment. At present I have three strong colonies, all hard at work on the goldenrod and fringed gentian. Notwithstanding the summer has been wet and short—we have had no summer weather here since about Aug. 25—the bees have stored 60 pounds of comb honey, besides laying up their winter stores. I can easily dispose of all my honey for 20 cents per pound, and thus clear a good percentage on my investment. Besides this, it has been a very great pleasure to me to manage them, as it has doubtless been their pleasure to *manage* me, on several occasions.

Two of my neighbors are in the bee-business, one having 20 colonies and the other 12, and I have had the benefit of their experience. Both of them winter their bees without loss, Mr. B. using the chaff-cushions, while Mr. R. uses a plan of his own, which, because it is less trouble and cheaper, I am going to try. He nails together four pieces of wood, each one inch thick and two inches wide, and tacks on this frame, for a bottom, a coarse cloth like that made to hold corn or oats. This cloth-bottomed box is filled with dry sawdust. To enable the bees to get at their honey, a thin stick is laid on top of the brood-frames at right angles to the openings, and over it is placed a coarse cloth which covers all the openings except immediately on each side of the stick. The box is then placed on the frames, and after the cap is put on, the bees are ready for the winter's cold. Mr. R. leaves his hives on the summer stands, and has never lost a colony by this plan.

Blauveltville,○ N. Y., Sept. 28,1885.

◆

For the American Bee Journal.

Characteristics of Syrian Bees.

8—J. SINGLETON, (90).

The article on page 568, from the *Journal of Horticulture*, is calculated to mislead those who have had no experience with Syrian bees. If the writer had said that *that* colony of Syrian bees was unmanageable, instead of stigmatizing all Syrians as such, he would have been nearer right.

I have had considerable experience with Syrians during the last three years, and must say that I prefer them to any Italians I have ever had, and I have purchased queens from most of our best breeders. I like them so well that I have this year reared three-fourths of my queens from that strain, and re-queened that proportion of my apiary of 90 colonies with them. I have repeatedly handled them without smoke,as readily as the quietest Italians; a thing I cannot do with blacks. They are more energetic, and more ready to enter the surplus apartments than the Italians; they are hardier, stand the winter better, breed later in the fall, and breed up more quickly in the spring; besides, they cap their honey whiter—more like the blacks.

The queens are large, beautifully striped, and very prolific. I prefer to have them mated with Italian drones, as the bees are quieter on the combs and not so nervous, although in their purity they are better for that than the blacks; and as to their attacking anything or anybody, except in defense of their hives, I have never experienced it, and so far as I have known of them, they attend strictly to business. Myself and others have stood in front of their hive-entrance when they have been flying in and out in numbers, and we were not molested; whereas the same treatment with the blacks would cause them to sting with a vengeance.

I belive that from the Syrian and Italian cross we shall ultimately produce the "coming bee"—*Apis Americana*. Dr. Tinker is evidently of the same opinion. My Syrians and Syrio-Italians have worked well in 2 and 3 stories of 14 Langstroth frames each, without showing any disposition to swarm, which is very different from the account given in the article referred to.

Cleveland,♁ O., Sept. 24, 1884.

◆

Bees and Honey at Mich. State Fair.

W. Z. Hutchinson and brother made a fine exhibit of the different races of bees under glass; also a large exhibit of comb and extracted honey. The comb honey was packed in very neat shipping cases, containing 14 one-pound sections; the extracted in honey-jars, holding from five ounces to one pound, three different sizes; and a good collection of bee-keeping implements, a case of bee-literature, bee-hives, etc.

R. L. Taylor, Lapeer, exhibited a foundation machine, colony of Italian bees (which received first premium), a machine for making holes in frames for receiving wires, and two cases of comb honey.

O. H. Townsend, Alamo, exhibited comb honey in shipping-cases, extracted honey in jars, beeswax, etc.

Mr. Rogers, of Lenawee Junction, and Frank Easton, of Hartford, each showed a case of comb honey; Miss Anna Cutting, of Clinton, two cases of comb honey. J. Ward showed a bee-hive and a feeder. McLain & Bro., of Aurora, Ills., exhibited an extra large bee-hive and a model for a bee-house; C. Barkenbus, of Kalamazoo, a honey-extractor; J. Vandervort, of Laceyville, Pa., two machines for making comb foundation. He received the first premium, as well as at the Tri-State Fair at Toledo, Ohio

H. D. Cutting, of Clinton, exhibited a large collection of implements, honey extractor, comb-foundation machine, case of bee-literature, extracted honey, bee-hives, comb foundation, etc.

The Bingham smoker and honey-knife received the first premium.

Chas. Dadant & Son, of Hamilton, Ills., and J. Van Deusen & Sons, of Sprout Brook, N. Y., each sent samples of comb foundation. James W. Tefft, of Collamer, N. Y., sent a bee-hive, with the request that it be presented to Prof. Cook after the Fair.

G. L. Tinker, of New Philadelphia, O., exhibited a bee-hive, queen-cage, and honey-sections; also a nucleus of Syro-Albino bees.

◆

Convention Notices.

☞ The Central Michigan Bee-Keepers' Association will meet in the Pioneers' Rooms in the State Capitol, at Lansing, Mich., at 9 a. m., on Nov. 12, 1885. All who have bees or are interested in bee-culture, are invited to attend.

E. N. WOOD, *Sec.*

☞ The next annual meeting of the Northern Michigan Bee-Keeper's Association will be held in the Council Rooms at Sheridan, Mich., on Oct. 22 and 23, 1885. A cordial invitation is extended to all.

F. A. PALMER, *Sec.*

Local Convention Directory.

1885.	*Time and place of Meeting.*
Oct. 10.—	Wabash County, at N. Manchester, Ind. J. J. Martin, Sec., N. Manchester, Ind.
Oct. 15, 16.—	Western, at Independence, Mo. C. M. Crandall, Sec., Independence. Mo.
Oct. 15.—	Progressive, at Macomb, Ills. J. G. Norton, Sec., Macomb, Ills.
Oct. 17.—	Marshall Co., at Marshalltown, Iowa. J. W. Sanders, Sec., LeGrand, Iowa
Oct. 21.—	Md., Va. & W. Va., at Hagerstown, Md D. A. Pike, Pres., Smithsburg, Md.
Oct. 22, 23.—	Northern Michigan, at Sheridan, Mich. F. A. Palmer, Sec., McBride, Mich.
Oct. 28, 29.—	Central Illinois, at Jacksonville, Ills.
Nov. 5, 6.—	N. J. & Eastern, at Trenton, N. J. Wm. B. Treadwell, Sec., 16 Thomas St., N. Y.
Nov. 12.—	Central Michigan, at Lansing, Mich. E. N. Wood, Sec., N. Lansing, Mich.
Dec. 8—10.—	Michigan State, at Detroit, Mich. H. D. Cutting, Sec., Clinton, Mich.
Dec. 8—10.—	North American, at Detroit, Mich. W. Z. Hutchinson, Sec., Rogersville, Mich.
Dec. 8-10.—	Northwestern, at Detroit, Mich. W. Z. Hutchinson, Sec., Rogersville, Mich.

☞ In order to have this table complete, Secretaries are requested to forward full particulars of time and place of future meetings.—ED.

SELECTIONS FROM OUR LETTER BOX

Good Results of the Season.—Fred Bechly, Searsboro,⊙ Iowa, on Sept. 29, 1885, says:

I commenced the spring of 1885 with 8 very weak colonies, increased them to 23, and have obtained 900 pounds of extracted honey.

Good Honey-Gatherers.—Peter Billing, Pawnee City,○ Neb., on Sept. 23, 1885, writes:

Bees have done fairly well this season. I increased my apiary from 9 weak colonies to 22 good ones, and will have about 350 pounds of comb honey. My bees are Italians, and are good honey-gatherers as well as beautiful to behold.

Treatment of Bee-Stings.—Dr. G. L. Tinker, New Philadelphia,⊶ O., writes:

On page 604, Mr. Thos. Gorsuch inquires regarding the use of soda for a bee-sting in the eye. I think it would be of some benefit as well as the subsequent use of slippery-elm water. The solution should be ice cold, or as cold as can be borne and frequently applied. The common baking soda will not injure the eye if applied in a very weak solution of water. In all severe bee-stings a small tea-spoonful of soda dissolved in water and taken internally, at once, is of benefit. For the vital depression, stagnation of the blood, or chill that takes place directly after receiving the stings, whisky in hot sweetened water, should be taken; and for the great fever that generally follows, belladonna, aconite and nitrate of potassa, together with the continued application of ice or ice-water to the affected parts.

Queens Imported—by Mail.—J. D. Enas, Napa,⊶ Calif., writes:

On Sept. 22 I received a queen from Mr. Benton, Germany, which was mailed on Sept. 3—19 days *en route.* The queen and bees were quiet, and upon opening the cage before a window, the queen took wing. The cage was dry and clean inside, with only three dead bees; the food was only about half consumed, and that left was in good condition. The cage had about one dozen brad-awl holes in one end, for ventilation. Over the top of the cage and at the bottom were two thicknesses of tissue paper, which the bees had partly gnawed through. I have succeeded in safely sending queens to Honolulu, H. I., by mail.

Honey-Dew for Winter Stores.—D. A. Pike, Smithsburg,⊶ Md., on Sept. 16, 1885, says:

Bees have done poorly in this locality. They have stored but very little surplus honey. They are in good condition to go into winter quarters, excepting that their stores are all honey-dew. Now we will see if honey-dew, or "bug-juice" as some Western bee-men call it, will kill our bees.

Good Results.—W. C. Lyman, Downer's Grove,♂ Ills., says:

I commenced the season with 6 colonies, increased to 17, and obtained from them 700 pounds of extracted honey. I limited them to one swarm each, and then increased by division. I winter my bees in the cellar, and last winter I lost none. They are now in good condition for winter.

Bees Leaving the Hive.—John Hurst, Minooka,♂ Ills., on Sept. 21, 1885, says:

Three weeks ago I had a swarm of bees that came out, and as it was a small one, I returned it to the same hive. The next morning it came out again, and I then took out all the frames and found that the millers had occupied two-thirds of them. I then sprinkled the bees with water till I could clean out the hive. I cut all the millers out and put the bees in once more, and they came out again. They were out for four hours, when they returned themselves and commenced to work. Five days afterward I looked the frames over again to see what progress they were making, and I found that they had much new comb, but no brood in it, and there were no eggs to be found. I then looked for the queen, but I could not find her or a single drone, and yesterday I took all the frames out, but no queen or drone was to be found in the hive, and there was only about a quart of bees. One comb I found with young brood capped, and the next frame with uncapped brood. Will some reader of the BEE JOURNAL tell how the brood came to be there, or where the eggs came from? I shall keep a close watch on them, for I may learn something from them. What will be the best way to make them into a strong colony for wintering?

The National Bee-Keepers' Union.

LIST OF MEMBERS.

Addenbrooke, W.,
Allen, Ransom,
Alley, Henry,
Anderson, J. Lee,
Anderson, Wm.,
Angell, C. S.,
Aspinwall, Jno.,
Babb, Enoch,
Baldwin, B. T.,
Ball, Miss J. M.
Barnes, Wm. M.,
Baxter, E. J.,
Benn, C. M. & W. L.
Bernschein, Ernst,
Besse, H., M. D.,
Billings, L. P.
Billing, Peter
Bitzer, Wm.,
Blanchard, O. C.,
Blount, C. N.,
Bohn, Gustav,
Bray, Moses,
Brickey, Peter,
Brown, A. J.,
Buchanan, J. W. & Bro,
Bucklew, J. A.,
Burrell, H. D.,
Burton, L.,
Camp, C. A.,
Camp, G. W.,
Carder, A.,
Chapman, B.,
Chapman, J.,
Cheney, H. H.,
Christian, P. J.
Clarke, Rev. W. F.,
Clickenger, Earlie,
Connley, John T.,
Cook, Prof. A. J.,
Cripe, Henry,
Dadant, Chas.,
Dadant, C. P,
Darby, M. E.,
Dayton, C. W.,
Deadman, G. A.,
Decker, A. A.,
Decker, C. K.,
Demaree, G. W.,
Dibbern, C. H & Son,
Dickason, T. B.,
Didrickson, O.,
Dittmer, Gus,
Dodge, U. E.,
Doolittle, G. M.,
Dorr, Dr. H R.,
Downs, Robert,
Drane, E.,
Dunham, P.,
Dunn, John,
Eaglesfield, E. C.,
Eastwood, L.,
Edson, A. S.
Elwood, Sr., W. R.,
Falsoner, J.,
Feathers, Harvey,
Flanagan, E. T.,
Englund, P. J.,
Enke, Wm.,
Follett, Charles,
Forbes, W. E.,
France, E. & Son,
Freeborn, S. I.,
Fulton, W. K.,
Funk, H. W.,
Furness, Dwight,
Gander, A. M.,
Goodrich, A. S.,
Green, Charles H.,
Greening, C. F.,
Greiner, G. C.,
Greiner, Friedemann,
Gresh, Abel,
Grimm, Christopher,
Griswold, Fred,
Harding, Benj.,
Harlens, J G.,
Harrison, S. H.,
Hart, F. M.,
Haskin, A. S., M. D.,
Hatch, C. A.,
Havens, Reuben,
Hayhurst, E. M.,
Hester, Mrs. J. N.,
Heddon, James,
Hensley, J. P.,
Hettel, M.,
Hill, A. G.,
Hills, Mrs. H.,
Hilton, George E.,
Hobler, Geo.,
Hoke, Abe,
Hollingsworth, C. M.,
Howard, J. B.,
Hoyle, George H.,
Huse, Wm. H.,
Hutchinson, W. Z.,
Hyne, James M.,
Illinski, Dr. A. X.,
Isham, H. B.,
Jackson, Andrew,
Jardine, Jas.,
Jones, George W.,
Jones, Henry,
Killough, J. M.,
King, D. N.,
King, T. Frank,
Koeppen, August
Kruschke, H. O.,
Lammey, John,
Langstroth, Rev. L. L.,
Lanning, John,
Lawton, B. W.
Le Roy, J. W.,
Lindsly, L.
Ludkey, Charles,
Ludloff, K.,
Lyman, W. C.,
Lynch, Jno. C.,
Maddox, W. T.,
Mahin, Rev. M.
Mallory, S. H.,
Munum, A. E.,
Marden, Henry,
Margrave, J. W.,
Mason, Jas. B.,
Mattoon, Jas.,
McConnell, James,
McCormick, Emery,
McGee, Charles,
McLees, S.,
McNay, Frank,
McNeill, James,
Millard, D.,
Miller, B. J. & Co.,
Miller, Dr. C. C.,
Miller, Henry,
Mills, L. D.,
Minnich, F.,
Minor, N. L.,
Morse, William,
Muth, C. F.,
Muth-Rasmussen, Wm.,
Nelson, James A.,
Newman, Alfred H.,
Newman, S M.,
Newman, Thomas G.
Nipe, James,
Nutt, W. C.,
Ochsner, J. J.,
Osburn, A. W.,
Owens, J. J.,
Parker, D. G.,
Payn, W. N.,
Pennoyer, L. A.,
Perkins, Nelson,
Peters, Geo. B.,
Peters, Jno.,
Phelps, N. T.,
Pond, Jr., J. E.,
Powell, E. W.,
Pray, G. L.,
Rainey, Jarvis,
Raisch, H.,
Reed, L.,
Reed, L. G.,
Rey, John,
Reppert, F.,
Reynolds, M. G.,
Richards, Wm.,
Roberts, Jesse H.,
Root, A. I.,
Rose, C. H.,
Rowe, David,
Roye, Burr,
Schaper, E. F.,
Scheuring, Paul,
Seabright, L. C.,
Sears, J. W.,
Secor, Eugene,
Shapley, D. L.,
Shearman, J. O.,
Shepard, Horace,
Shirley, W. H.,
Shuck, J. M.,
Slade, W. D.,
Smith, David,
Smith, George,
Smith, Mrs. Martha,
Snell, F. A.,
Spady, Jno.,
Spencer, M. L.,
Stearns, J. R.,
Stephenson, H. W.,
Stephens, W. B.,
Stewart, W. H.,
Stocker, Wm. S.
Stolley, Wm.,
Stordock, C. H.,
Storer, E. M.,
Talbert, M.,
Taylor, George,
Taylor, R. L.
Thatcher, Will.,
Theilmann, C.,
Thompson, Geo. M.,
Tinker, Dr. G. L.,
Tongue, L. N.,
Travis, F. W.,
Travis, I. A.,
Treadwell, W. B.,
Trimberger, John,
Turner, T. E.,
Twining, M. J.,
Tyner, Alonzo,
Vanhouten, C. W.,
Viallon, P. L.,
Walton, Col. R.,
Webster, H. S.,
Weeks, C.,
Wendt, Henry,
Whitney, W. V.,
Wicherts, A.,
Wilkins, Miss Lucy A.,
Wolcott, Wm. C.,
Wright, W. D.,
Wurth, Dan.,
Zwiener H. L.

Honey and Beeswax Market.

Office of the AMERICAN BEE JOURNAL,
Monday, 10 a. m., Oct. 5, 1885.

The following are the latest quotations for honey and beeswax received up to this hour:

CHICAGO.

HONEY.—White comb honey is in good demand at 15 cents per lb., when put up in the best shape. Receipts are light. Dark comb honey is in light demand. Extracted honey goes slowly at 5@8 cts.

BEESWAX.—23@25c.

R. A. BURNETT, 161 South Water St.

BOSTON.

HONEY.—We have received quite a large stock of honey, mostly from Vermont, and the quality is very fine. We are doing the best we can to keep the price up where bee-keepers can get something for their honey. One of the largest producers of honey sold his entire crop at a very low price, and honey is being sold here so that it will leave bee-keepers nothing. We still hold our prices at 16@18 cts. for 1-lb sections, and 14@16c. for 2-lbs. Extracted is 6@8c. per lb.

BEESWAX.—30 cts. per lb.

BLAKE & RIPLEY, 57 Chatham Street.

NEW YORK.

HONEY.—There is not much change in the market. The new crop is coming in quite freely, and is selling readily at the following prices: Fancy white clover, in 1-lb. sections, 14@15 cents; the same in 2-lb. sections, 12@13c.; fair to good, in 1 and 2 lb. sections, 10@11c.; fancy buckwheat, in 1-lb. sections, 11@12c.; the same in 2-lb. sections, 9@10c. Extracted, white clover, 6@7c.; buckwheat, 5@6c.

BEESWAX—Prime yellow, 25@28c.

MCCAUL & HILDRETH BROS., 34 Hudson St.

CINCINNATI.

HONEY.—No change has taken place in the general feature of the market. Demand is slow for extracted honey with abundance on the market. Extracted honey brings 4@8c on arrival, and choice comb honey 15@16c in a jobbing way.

BEESWAX—Is in fair demand, and arrivals are good. We pay 20@24c for good yellow.

P. S. The following explanation in regard to markets seems to be in order to post some bee-keepers and save them from disappointments. When quoting prices "on arrival," I mean to say that honey will bring *about* the price quoted, or that a figure within the range given, will appear reasonable or acceptable to a purchaser. I quote as nearly as possible the price at which I am buying and selling. I do *not* mean to say that purchasers are waiting for the arrival of honey and are anxious to buy at those prices quoted, nor that I am willing to pay those prices on arrival for all the honey that may be shipped here. This latter would require a larger capital than I and two more of the largest dealers in America possess. It is unpleasant for us to be over-run with honey for which I will not pay on arrival, unless agreement has been made previous to shipment.

C. F. MUTH, Freeman & Central Ave.

SAN FRANCISCO.

HONEY.—Arrivals are quite light, with a probability of so continuing through the balance of the season. There is some inquiry for best qualities, with a firm market for the same. Quotations are as follows: White to extra white comb, 9@11c.; dark to good, 5@8c. Extracted, white liquid, 5@5½ cts.; light amber colored, 4½@5c.; amber and candied, 4¼c.

BEESWAX.—Quotable at 23@25c., wholesale.

O. B. SMITH & CO., 423 Front Street.

CLEVELAND.

HONEY.—The new crop is beginning to arrive and is selling at 14@15 cts. per lb. for choice 1-lb. sections. Old honey is very dull—none selling although freely offered at 10@12 cts. Extracted, as usual is not in demand in our market.

BEESWAX.—20@22 cts. per lb.

A. C. KENDEL, 115 Ontario Street.

KANSAS CITY.

HONEY.—We now report a very firm market with some advance in prices, though the trade take hold very slowly as yet, and complain terribly when the advance is quoted to them. We are now holding for 16@17c. for fancy white honey in 1-lb. sections, 15@16c. for 2-lbs., and 12@13c. for Calif. Fancy 1-lb. sections, if marketed soon, will bring a good price. Extracted is a little firmer at about the same prices, viz: Miss., La. and Texas, 4@6c., and white clover and Calif., 7@8c.

BEESWAX.—Unchanged, 20@25c., according to quality.

CLEMONS, CLOON & CO., cor. 4th & Walnut.

WEEKLY EDITION
OF THE
AMERICAN
ESTABLISHED IN 1861
OLDEST BEE PAPER IN AMERICA
BEE JOURNAL
PUBLISHED BY
THOMAS G. NEWMAN & SON,
PROPRIETORS,
923 & 925 WEST MADISON ST., CHICAGO, ILL.
Weekly, $2 a year; Monthly, 50 cents.

ALFRED H. NEWMAN,
BUSINESS MANAGER.

Special Notices.

SPECIAL NOTICE.—On January 1,1886, the price of the Weekly BEE JOURNAL will be reduced to *One Dollar a Year*. This we have contemplated for some years, and only awaited the proper time to warrant us in issuing the Weekly BEE JOURNAL at the very low price of *one dollar* a year. That time has now come. We shall continue to improve the BEE JOURNAL, and it will maintain its proud position as the leading bee-paper of the World!

New subscribers will be supplied with the Weekly from now until the end of the year 1886, for **$1.25**.

Those who have already subscribed for any portion of *next year* will have the time beyond January 1st doubled. These changes in the mail-list type are already made.

◆

For $1.25 we will send the Weekly BEE JOURNAL to *new subscribers* from now until the end of 1885—fifteen months. Now is the time to subscribe. The sooner it is done the more they will get for the money.

◆

To Correspondents.—It would save us much trouble, if all would be particular to give their P. O. address and name, when writing to this office. We have several letters (some inclosing money) that have no name; many others having no Post-Office, County or State. Also, if you live near one post-office and get your mail at another, be sure to give the address we have on our list.

◆

Bees and Poultry.—But few out-door pursuits go so well together as bees and poultry. Give the poultry the necessary attention in the morning and evening, and give the bees such of the time between as becomes necessary. We have made arrangements by which we can supply the American Poultry Journal (price $1.25) and the Weekly BEE JOURNAL both for **$1,75** a year. This is a rare opportunity to get two standard papers for less than the price of one. For a free sample send to the Poultry Journal.

◆

Any person not a subscriber, receiving a copy of this paper, will please consider it an invitation to become a subscriber to it.

"Don't Stop"—that is what many write to us about their papers, when their time is nearly out. One subscriber says: "This has been a year of disaster, and it is not convenient for me to send you the money now to renew my subscription. It runs out with this month; *but don't stop sending it*. I will get the money to you within three months." Such letters are coming every day, and so for the present we have concluded not to stop any papers until requested to do so.

◆

☞ To create Honey Markets in every village, town and city, wide-awake honey producers should get the Leaflets "Why Eat Honey" (only 50 cents per 100), or else the pamphlets on "Honey as Food and Medicine," and scatter them plentifully, and the result will be a DEMAND for all of their crops at remunerative prices. "Honey as Food and Medicine" are sold at the following prices:

Single copy, 5 cts.; per doz., **40** cts.; per hundred, **$2.50**. Five hundred will be sent postpaid for **$10.00**; or **1,000** for **$15,00**. On orders of **100** or more, we will print, if desired, on the cover-page, "Presented by," etc. (giving the name and address of the bee-keeper who scatters them).

To give away a copy of "Honey as Food and Medicine" to every one who buys a package of honey, will sell almost any quantity of it.

◆

Preserve your papers for reference. If you have no **BINDER** we will mail you one for 75 cents, or you can have one FREE if you will send us 3 new yearly subscriptions for the BEE JOURNAL.

◆

☞ Our rates for two or more copies of the book, "Bees and Honey," may be found on the Book List on the second page of this paper. Also wholesale rates on all books where they are purchased "to sell again."

◆

☞ **Sample Copies** of the BEE JOURNAL will be sent FREE upon application. Any one intending to get up a club can have sample copies sent to the persons they desire to interview by sending the names to this office, or we will send them all to the agent.

◆

☞ All who intend to be systematic in their work in the apiary, should get a copy of the Apiary Register and commence to use it. The prices are as follows:

For	50 colonies (120 pages)	$1 00
"	100 colonies (220 pages)	1 25
"	200 colonies (420 pages)	1 50

The larger ones can be used for a few colonies, give room for an increase of numbers, and still keep the record all together in one book, and are therefore the most desirable.

◆

We have received from the Publishers a copy of a new series of Recitations, called "THE EUREKA RECITATIONS AND READINGS." It is a very good collection and has been compiled and prepared by Mrs. Anna Randall-Diehl, whose reputation as a writer of standard works on Elocution, and also as a teacher of the art, is second to none. They comprise Prose and Poetry—Serious, Comic Humorous, Pathetic, Temperance, and Patriotic. All those who are interested in providing an entertainment should have this collection. Each one contains 128 pages, and is bound with a handsome lithograph cover printed in four colors, and will be mailed to any address, postpaid, on receipt of 12 cents in stamps, by J. S. OGILVIE & Co., the Publishers, 31 Rose St., New York.

Advertisements.

HONEY

WE are now in the market, and will be during the entire season, for all honey offered us, in any quantity, shape, or condition—just so it is pure. We will sell on commission, charging 5 per cent.; or, if a sample is sent us, we will make the best cash offer the general market will afford. We will handle beeswax the same way, and can furnish bee-men in quantities, crude or refined, at lowest market prices. Mr. Jereme Twichell, our junior member in this department, has full charge, which insures prompt and careful attention in all its details.

Sample of comb honey must be a full case, representing a fair average of the lot. On such sample we will make prompt returns, whether we buy or not.

CLEMONS, CLOON & CO.,
36A17t KANSAS CITY, MO.

"BOSS" ONE-PIECE
SECTIONS.
Patented June 28, 1881.

PATENTED JUNE 28 1881.

One-lb. (4¼x4¼)	in lots of	500 to 4,000	$5.00
Ditto	Ditto	5,000 to 10,000	4.50
Ditto	Ditto	10,000 to 25,000	4.00

The one-lb. Section is 17 inches long. For any sizes between 17 and 20 inches in length, add 5 per cent. For any sizes between 20 and 24 inches, add 10 per cent. Add the above per centage to the price of one-lb. Sections in the same quantities.

We make any size or width desired.

J. FORNCROOK & CO.,
BCtf Watertown, Wis., Mar. 1, 1885.

☞ Thos. G. Newman & Son, of Chicago, sell the one-piece Sections manufactured by us.

HEADQUARTERS IN THE SOUTH
For the manufacture of
Bee-Keepers Supplies
Dunham and Root Foundation a specialty.
Italian Queens and Bees from March to November.
☞ Send for my Illustrated Catalogue.
5Ctf **PAUL L. VIALLON**, Bayou Goula, La.

(ESTABLISHED 1864.)
BEE-SUPPLIES.
We furnish EVERYTHING needed in the Apiary, of practical construction, and at the **lowest price**. Satisfaction guaranteed. Send your address on a Postal card, and we will send you our Illustrated Catalogue free. **E. KRETCHMER,**
2C12t COBURG, IOWA.

BEESWAX.
We pay **20c.** per lb., delivered here, for yellow Beeswax. To avoid mistakes, the shipper's name should always be on each package.
THOS. G. NEWMAN & SON,
923 & 925 West Madison Street, CHICAGO, ILL.

Dadant's Foundation Factory, wholesale and retail. See Advertisement in another column.

Bee-Keepers' Badges at Fairs.
We have some **ELEGANT RIBBON BADGES**, having a rosette and gold Bee, for bee-keepers' use at Fairs, Conventions, etc. Price 50 cents each, by mail, postpaid.
THOMAS G. NEWMAN & SON,
923 & 925 West Madison St., CHICAGO, ILL

BEES and HONEY,

OR THE

Management of an Apiary for Pleasure and Profit; by

THOMAS G. NEWMAN.

Editor of the Weekly Bee Journal.

It contains 220 profusely illustrated pages is "fully up with the times" in all the improvements and inventions in this rapidly developing pursuit, and presents the apiarist with everything that can aid in the successful management of the honey-bee, and at the same time produce the most honey in its best and most attractive condition.

PRICE—Bound in cloth, $1.00, postpaid.

☞ **A Liberal Discount to Dealers, by the Dozen or Hundred.**

☞ The Weekly BEE JOURNAL for a year and the book, "Bees and Honey," will be sent for $1.75.

THOS. G. NEWMAN & SON,
923 & 925 West Madison St., CHICAGO, ILL.

Dadant's Foundation Factory, wholesale and retail. See Advertisement in another column.

Given's Foundation Press

THE GIVEN PRESS stands in the front rank for manufacturing **FOUNDATION** in **Wired Frames**, as well as foundation for **SECTIONS**. Without a dissenting voice, all of our customers affirm its superiority. Send for Circulars and Samples.

D. S. GIVEN & CO.,
1ABtf HOOPESTON, Vermillion Co., ILL.

POULTRY AND BEES

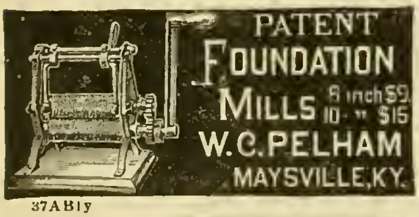
TWO PAPERS for the PRICE of ONE.

THE POULTRY JOURNAL is a beautifully printed and illustrated 32-page Monthly, devoted to the breeding and management of Poultry, Pigeons, Rabbits and Dogs, at $1.25 a year. C. J. WARD, editor and proprietor, Chicago, Ill. Send to the Poultry Journal for a free sample.

We will send the "Poultry Journal" and the "Weekly Bee Journal" for one year, both for **$1.75.**

THOS. G. NEWMAN & SON,
923 & 925 West Madison St., CHICAGO, ILL.

Dadant's Foundation Factory, wholesale and retail. See Advertisement in another column.



37ABly

FLAT-BOTTOM

COMB FOUNDATION,

high side-walls, 4 to 16 square feet to the pound. Circular and samples free

J. VAN DEUSEN & SONS,
Sole Manufacturers,
Sprout Brook, Mont. Co., N. Y.

Vandervort Comb Fdn. Mills,

Send for Samples & Reduced Price-List.
ABtf J. VANDERVORT, Laceyville, Pa.

Dadant's Foundation Factory, wholesale and retail. See Advertisement in another column.

Wooden Pails for Honey!

WE can furnish regular Wooden Water-Pails—well painted on the outside, and with 3 iron hoops and a tight-fitting wood cover, at **$2.25** per dozen. They will hold **25** lbs. of honey, and when empty, can be utilized for use as an ordinary household pail.

THOS. G. NEWMAN & SON,
923 & 925 West Madison Street, CHICAGO, ILL.

Bee-keepers' Supplies,

Standard Langstroth,

Quinby Standing-Frame,

And all other kinds of **Hives**, MADE TO ORDER.

Quinby Smoker a specialty.

I shall supply anything you need in the Apiary. Send for Illustrated Price List.

W. E. CLARK, successor to L. C. Root,
7Aly ORISKANY, Oneida County, N. Y.

THE INVERTIBLE HIVE!

INVERTIBLE FRAMES,

Invertible Surplus Honey Cases, Entrance Feeders, Top and Bottom Feeders, Hive-Lifting Device, Honey Extractors, Wax Extractors, Comb Foundation, etc.

☞ My new Illustrated Catalogue is now ready, and will be mailed to all who may apply for it. Address,

J. M. SHUCK,
DES MOINES, IOWA.
10Aly

A PRIZE.

Send six cents for postage, and receive free, a costly box of goods which will help you to more money right away than anything else in this world. All, of either sex, succeed from first hour. The broad road to fortune opens before the workers, absolutely sure. At once address TRUE & CO., Augusta, Maine.
51Aly

SECTIONS.

Job Lot—Cheap!

WE have received a Job Lot of **25,000** One-Piece Sections with square groove, which we will close out at **$4.00** per 1,000, or $2.50 for 500. The size is: top and bottom, 6 inches; sides, 5¼ inch; width of section, 1¾ inches—narrow tops.

THOS. G. NEWMAN & SON,
923 & 925 West Madison Street, CHICAGO, ILL.

QUEENS

AT REDUCED PRICES.

OWING to the scarcity of money, I will SELL **Warranted Queens at $8.00 per dozen. Two dozen for $15.00.**
30ABtf **J. T. WILSON,** Nicholasville, Ky.

NEW ONE-POUND HONEY PAIL.

THIS **new size** of our Tapering Honey Pails is of uniform design with the other sizes, having the top edge turned over, and has a bail or handle,—making it very convenient to carry. It is well-made and, when filled with honey, makes a novel and attractive small package, that can be sold for 20 cents or less. Many consumers will buy it in order to give the children a handsome toy pail. **PRICE, 75 cents per dozen, or $5.00 per 100.**

THOS. G. NEWMAN & SON,
923 & 925 West Madison St., CHICAGO, ILL.

Dadant's Foundation Factory, wholesale and retail. See Advertisement in another column.

$200,000 *in presents given away.* Send us 5 cents postage, and by mail you will get *free* a package of goods of large value, that will start you in work that will at once bring you in money faster than anything else in America. All about the $200,000 in presents with each box. Agents wanted everywhere, of either sex, of all ages, for all the time, or spare time only, to work for us at their own homes. Fortunes for all workers absolutely assured. Don't delay. H. HALLETT & CO.
51Aly Portland, Maine.

Muth's Honey Extractor,

Square Glass Honey Jars, Tin Buckets,
Langstroth Bee-Hives, Honey-Sections, etc.

Apply to **CHAS. F. MUTH,**
Freeman & Central Ave., - CINCINNATI, O.

☞ Send 10c. for Practical Hints to Bee-Keepers.

W. Z. HUTCHINSON,

Rogersville, Genesee Co., Mich.,

CAN still furnish Italian queens, bred from the best of mothers, and reared in full colonies. Single queen, $1.00; six for $5.00; twelve, or more, 75 cts. each. Tested queens $2.00 each. Make money orders payable at Flint. Full colonies, $5.00 each. Neat, white, basswood shipping-crates, for comb honey, six cents each in the flat. Sample, by express, nailed up, ten cts. 37Atf

---

60 New Style, Embossed Hidden Name and Chromo Visiting Cards, no 2 alike, name on, 10c., 13 packs $1; warranted best sold. Sample book, **4c.** L. JONES & CO., Nassau, N. Y.
11Aly

WIN more money than at anything else by taking an agency for the best selling book out. Beginners succeed grandly. None fail. Terms free. HALLETT BOOK CO.
51Aly Portland, Maine.

HELP for working people. Send 10 cents postage, and we will mail you *free*, a royal, valuable sample box of goods that will put you in the way of making more money in a few days than you ever thought possible at any business. Capital not required. You can live at home and work in spare time only, or all the time. All of both sexes, of all ages, grandly successful. 50 cents to $5 easily earned every evening. That all who want work may test the business, we make this unparalleled offer: To all who are not well satisfied we will send $1 to pay for the trouble of writing us. Full particulars, directions, etc., sent free. Immense pay absolutely sure for all who start at once Don't delay. Address STINSON & CO.
51Aly Portland, Maine

Friends, if you are in any way interested in

BEES OR HONEY

We will with pleasure send a sample copy of the **Semi-Monthly Gleanings in Bee-Culture,** with a descriptive price-list of the latest improvements in **Hives, Honey Extractors, Comb Foundation, Section Honey Boxes,** all books and journals, and everything pertaining to Bee Culture. *Nothing Patented.* Simply send your address *written plainly*, to
Ctf A. I. ROOT, Medina, O.

WEEKLY EDITION
OF THE
AMERICAN
ESTABLISHED IN 1861
OLDEST BEE PAPER IN AMERICA
BEE JOURNAL

THOMAS G. NEWMAN,
EDITOR.

Vol. XXI. Oct. 14, 1885. No. 41.

APICULTURAL NEWS ITEMS.

EDITORIAL AND SELECTED.

Lonely, a belated bee
Hies him homeward drearily—
There's no clover in the lanes—
Cold winds set him shivering ;
Sad, he falls to querying :
What for bees remains ?

The Bee-Keepers' Magazine, under the management of Aspinwall & Treadwell, the new proprietors, takes strong ground in favor of the National Bee-Keepers' Union. It deserves its evident prosperity.

Do Not Think of knocking out another person's brains because he differs in opinion from you ; it would be as rational to knock yourself on the head because you differ from yourself ten years ago.

A Wisconsin Lady died in twenty minutes from the sting of a honey-bee. Those prairie people can stand a rattlesnake bite, but a bee-sting is beyond the power of usual cure.—*San Francisco Alta.*

In Siberia the exiles pasture thousands of colonies of bees on the heaths of the Altai range, and in the Caucasus the Meretinzes and Grusinians live in plenty by the sale of the honey stored by their winged flocks.

Agents can sell the Guide and Hand-Book like "hot-cakes." Send us an order for five copies (with $2.50) and we will send you the Weekly BEE JOUANAL *free* for a year. This is a *rare* opportunity to get the Weekly BEE JOURNAL without cost ! !

Small Sticks will kindle a fire, but large ones will put it out. Short and pithy articles or speeches are the life of a paper or convention, while long, dry ones (even though they may be scientific and learned) will kill enthusiasm, and make everybody "blue" and tired.

October—the month of falling leaves and frosty nights—is here. It is high time now to decide upon the method of wintering bees, and to commence preparations for carrying out that plan. Get the cellar ready, or have the boxes and packing at hand, so that either plan decided upon can be immediately used when it becomes necessary.

Red and Black Ants may be destroyed by sprinkling powdered borax around the places which they infest. It is also said that powdered cloves will drive them away. A plate smeared with lard will attract them ; if this is occasionally turned up over a fire, multitudes of ants will fall into it with the melted lard, and be destroyed.

Mr. J. W. Tefft, of East Syracuse, N.Y., invited a few friends to his apiary a few days ago, to see what a colony of bees with a Holy-Land queen had done during the past year. It was in an 18-reversible-frame hive, with 64 ¾-pound sections nearly all ready for the market, 4 frames of capped honey and 6 frames of brood. He values that queen at $100. This we learn from a local paper.

Larkin Leonard, a remarkable old gentleman, died in Franklin County, N. C., recently, at the age of 84. He never bought a pound of meat, a barrel of flour or corn, did not owe a dollar when he died, never wore spectacles, could read, had a good set of teeth, never saw a railroad, had a sow 27 years old, never swapped horses, *never was out of honey*, nor corn; wore one pair of shoes 13 years, kept one pair of plow lines 19 years, and never moved from the place where he settled when a young man.

The Guide and Hand-Book, is a book of ready reference and an encyclopædia of everything desirable to know. As a guide to the home-seeker, it is invaluable. Its contents are partially given on page 653, and will convince any one of its value. We do not think any of our readers can afford to do without it. As a book of ready reference we find it of great value in our library. We will send the Weekly BEE JOUANAL for a year and the Guide for $1.30.

Toads are doing considerable damage to California apiaries. A San Francisco paper states that an apiarist, in one of the lower counties of that State, found that his colonies were being decimated by nocturnal visits of large toads. They got upon the alighting-board and there caught the bees as fast as they made an appearance at the hive entrance. These toads were very active early in the morning when the bees first commenced their day's labor. From Alameda County, Calif., one of our correspondents says that there has been an unusual number of big toads about, and that toward night-fall they would take up their stand at the front of a hive and make "a square meal" on the bees. He has killed all he could see, but adds, "still they come." Hives that are near the ground are the only ones that are molested.

Migratory Bee-Keeping in France is practiced on the following plan :

> Those hives being selected whose combs are firm and not likely to be broken by jolting, 30 to 40 of them are carefully packed in tiers in a cart, which proceeds slowly on its travels. If the season be sultry, they journey only at night, the hives being covered up with cloth. On arriving in a suitable locality the hives are taken out of the cart, set upon the ground, and the bees go forth in search of food. In the evening, as soon as they have all returned, the hives are shut up, again placed in the cart, and they proceed on their journey. When the caravan has arrived at its destination, the colonies are distributed in the gardens or fields adjacent to the houses of the different peasants, who, for a very small remuneration look after them.

Sense of Direction in Bees, Ants, etc.—At the meeting of the British Association for the Advancement of Science, held at Aberdeen, Scotland, Sept. 11, Sir John Lubbock contributed a paper on some recent observations on the habits of ants, bees, and wasps. As regarded the sense of direction which some insects had been supposed to possess, Sir John referred to some interesting experiments of M. Fabre, who, having taken some bees two miles from home and whiled them round and round in a dark bag, let them out, notwithstanding which they found their way home. Sir John, however, suggested that the distance they were taken was not sufficient. His own experiments did not confirm the idea that they had any sense of direction, except in the same sense in which we might be said to have one. In continuation of previous experiments, Sir John took for instance forty ants, fed them with honey, and put them down on a gravel path fifty yards from their nest. They wandered about in all directions, and it was obvious that they had no idea which was the right way home.

A Very Useful Book is on our desk. It is called "The Western World Guide and Hand-Book of Useful Information." We have spent several hours in looking it over, and have added much to our stock of knowledge. It certainly contains the greatest amount of useful information ever put together in such a cheap form. The printing, paper, and binding is excellent, and the book is well worth a dollar. To any one sending us two *new* subscribers besides their own, with $3, for one year, we will present a copy of this valuable book.

Birds that Hunt Wild Bees in Africa, are described in the October number of *St. Nicholas* :

> This little bird is very shiftless, and not only fails to build a home for its little ones, but even goes so far as to make other birds have all the trouble and worry of bringing up and feeding them. Like the cuckoo, it puts its eggs in the nests of other birds.
>
> The "honey-guide," as it is called, is exceedingly fond of honey : or, if it cannot have that, is satisfied with young bees. It is only about the size of a lark, and so is not specially fitted for encountering a colony of bees fighting in defense of their home. The little bees seem to know that their stings cannot injure the feather-covered body of the bird, and accordingly they direct their attacks at the eyes of the robber ; and if the bird does not escape in time, it will be blinded, and so perish of starvation.
>
> When it has found a nest, it darts away in search of a man. As soon as it sees one, it hovers over him, flies about his head, perches near him, or flutters here and there in front of him, all the time chattering vigorously. The native knows in a moment what the little bird means ; and as he loves honey as a child does candy, only something that is very important will prevent his accepting the honey-guide's invitation. When he is ready to follow, he whistles ; and the bird seems to understand the signal, for it at once flies on for a short distance and waits till the man is near, and then flies on a few yards farther. In this way the bird leads the man until the nest is reached. Then it suddenly changes its twitter for a peculiar note, and either hovers over the nest for a moment, or complacently sits down and lets the man find the nest as best he can.
>
> When it is found, the bees are smoked out with a torch or with a fire of leaves, according to the height of the nest from the ground. A small portion of the honey is given to the bird as its share of the plunder. If the little fellow has had honey enough, it disappears ; but if, as is usually the case, it receives only enough to whet its appetite, it will lead to another nest, and sometimes even to a third.

QUERIES

WITH

REPLIES by Prominent Apiarists.

Cider and Bees.

Query, No. 130.—A cider-mill is about to be built opposite my place, and about ⅛ of a mile away. Will the cider kill the bees if they work on the pomace that is thrown outside the mill? Would it do to make a cage about 2 feet square for each hive, and put water and syrup inside of it to keep the bees at home?—F. H. I.

I should fear the cider but little, but many bees would get killed by having pomace thrown on them. I do not think the cage-plan would work well, but you could tell by trying it on one or two colonies.—G. M. DOOLITTLE.

The cider may or may not be injurious, who knows? It would be just as well *not* to have any cider in the hives, and it would be better to keep the bees away from the mill and pomace, by using wire-screens *at the mill*.—W. Z. HUTCHINSON.

If plenty of pure stores are contained in the hive, or fed in season to have them sealed, I do not think the cider will do any harm. It would not do to cage the bees as described, as they would most certainly be killed by so doing. It would be far better to cage the cider-mill and pomace.—J. E. POND, JR.

The cider from pomace would not hurt bees much, and I am sure that any method of confinement at a time when the bees want to go abroad will cause more loss than is likely to be sustained from the effects of "drinking" cider.—G. W. DEMAREE.

If well supplied with other stores, I should not object to their working on pomace a little. I should not want to cage the bees, but might want to cage the pomace.—C. C. MILLER.

I should not like the cider, though I am not sure that it will do the bees any harm. Can you not arrange to have the mill and all enclosed so the bees may not get to it? Access to pomace I should not much fear. Yet we need more real knowledge as to effects of apple juice.—A. J. COOK.

I do not think that the cider will kill your bees, for mine work on pomace and in the mill nearly every year, and their cider gathering seems to have nothing to do with their success or failure in wintering. Do not try to keep your bees in by any such arrangement.—JAMES HEDDON.

I am not one of those who think cider or other fruit juices are so very injurious to bees in winter. If provided with a warm hive they will evaporate the excess of water. I think that a greater injury comes from the decimating of colonies, the bees being killed in the cider-press and in other ways about an open cider-mill. Were such a mill to be erected opposite my apiary, I would willingly pay for putting up screen-doors to keep the bees out, and then I would be sure to keep on the right side of the cider man. I should care nothing for the pomace that is thrown out if no bees were killed.—G. L. TINKER.

Preparing Hives for Winter, etc.

Query, No. 131.—1. I am using the Vandervort chaff-hives with 9 frames, and the young colonies have their hives filled with nice, white basswood honey. Would it be best to extract a part of that this fall and spread the frames for winter, or leave them as they are? 2. I notice that in the A B C of Bee-Culture it is recommended to cover sections with chaff-cushions. Will it pay to get them made purposely for that? 3. Is tiering-up the surplus boxes advantageous?—C. B. F

1. I think I should prefer to leave them as they are. 2. It would hardly pay. 3. I think so.—C. C. MILLER.

1. I would spread the combs. 2. I never cover the sections with chaff cushions, and do not know why it should be done. 3. Yes.—W. Z. HUTCHINSON.

1. I should leave the honey as it is, and if I wished to spead the frames I should take out one and hang it away for future use. 2. I use a sheet of enameled cloth or an old quilt, which I think is just as good as a chaff cushion.—G. M. DOOLITTLE.

1. I would leave them only enough stores to winter upon, and extract the balance. 2. No. 3. I consider the tiering-up of surplus-cases the most advantageous procedure in obtaining a large surplus either of comb or extracted honey.—G. L. TINKER.

1. I would extract all in excess of 30 pounds We always do this in autumn. Do not spread the frames much, but close up by the use of division-boards. 2. Fill burlap sacks with fine dry sawdust; these cost but little, and are very good. 3. I think that tiering-up is just the best way to get nice comb honey.—A. J. COOK.

1. If my hives were *full* of early gathered stores, I would remove some of the center frames and put one or two empty combs in their places. I believe it is best to leave the combs as nature dictates, when the bees are building them. 2. No. 3. Decidedly yes. No other plan will ever supersede the "tiering-up" system.—G. W. DEMAREE.

1. I should not do it. You might do so and winter them nicely if they have a great deal more honey than they will consume, in the manner you winter them. 2. I shall never make any more chaff cushions, for it does not pay. 3. Yes; I believe it to be a system that will soon become universal.—JAMES HEDDON.

1. I should extract a small quantity from the lower portion of each comb, and leave 7 frames in each hive containing about 5 pounds of honey per frame. 2. I find it most economical to place a piece of burlap over the frames, and fill on top of that with forest leaves or chaff, pressed loosely down. 3. Yes, ordinarily, by placing the empty boxes below the partially filled ones.—J. E. POND, JR.

Tiering-Up Hives in the Cellar.

Query, No. 132.—Is it proper to tier-up bee-hives in the cellar 4 or 5 high, in this wise? Place at the bottom a hive having a strong colony, with bottom-board only, over which place wire-gauze, and over that two thicknesses of burlap; and so on without either bottom or top, up to the top hive; also giving them good ventilation, leaving the entrances open and putting in wedge-shaped sticks projecting sufficiently to hold up the burlap as an alighting-board for a play-ground. The object of the tiering-up is to create an upward draft, and thereby secure good ventilation.—Glenn, Kans.

I see no object in tiering-up hives in the cellar, except to gain room.—G. M. DOOLITTLE.

I should prefer to leave on the covers. If such a plan should be used, the temperature of the cellar should be pretty high.—W. Z. HUTCHINSON.

Your plan is very good. Plenty of ventilation, regular temperature, and a dry cellar, are all that is required, provided the bees are in good condition when put in.—DADANT & SON.

This would be good if the temperature could be kept down. If the bees get too warm, look out for trouble.—A. J. COOK.

I should prefer to have the ventilation of each hive independent of the others. If I understand correctly, the plan proposed, none but the bottom colony would have entirely pure air.—C. C. MILLER.

I have thought of this plan as a preserver of heat, but I should never adopt it as a means of securing ventilation. Probably such a plan will not be needed to succeed, and will never become popular.—JAMES HEDDON.

I think that hives in well ventilated cellars should have only lower ventilation. But if the repository is not freely ventilated, I should want both free upward and free lower ventilation. I should prefer to have each hive rest upon its own bottom-board, but raised one or two inches by means of blocks at the corners.—G. L. TINKER.

What Ails the Bees?

Query, No. 133.—I have 33 colonies in good condition, and gathering honey in abundance from buckwheat, Spanish-needle and goldenrod. But one of them is affected with a malady which suggests poison; but if that were the case other colonies would be affected. The badly affected bees I should think would number 2,000. They are constantly cleaning themselves by rubbing their bodies, legs and wings, and turning on their sides; they will not run from smoke. Their abdomens are shining, and the black portions are intensely so; they are shrunken and pointed. They are taken from the hive in a string or path extending 6 feet from the hive. The first indication was about a quart of dead bees that suggested robbing. The weather has been wet and cool one week of the past two. They have a fine queen, but she is not laying to the extent that the others are. They also have preserved their drones. What ails them?—W. B. T.

I would guess that this colony had found some liquid sweets in bulk, and were robbing.—JAMES HEDDON.

The trouble may be in the queens. —G. L. TINKER.

This is just what I have often heard of this fall. It seems to be a new malady. As yet I cannot suggest any cause, and so, of course, no remedy.—A. J. COOK.

Bees that have been imprisoned between two combs of honey for a length of time present the appearance here described, and act the same.—G. M. DOOLITTLE.

From the statement in this query, I can only suggest that a small swarm may have entered the hive and was used up. But the symptoms as described rather favor a case of poisoning. It is not improbable that some of the bees may have gotten at poison and others not.—G. W. DEMAREE.

It is impossible to give more than a guess as an answer to this conundrum. Possibly a personal examination might be an aid to a correct solution. The data given is too slight to enable one to solve this problem, as it might be the result of a single cause or of a multiplicity of them.—J. E. POND, JR.

Losing Bees very Fast.

Query, No. 134.—What is wrong with my bees? The strongest colony that I have is losing bees very fast. Early in the morning there are in the hive from 50 to 200 old bees dead and dying. I examined it to-day, but could find nothing wrong. It had four combs of brood in all stages, from the egg to capped brood.—W. S. S.

It may be nothing except the bees dying of old age.—W. Z. HUTCHINSON.

This is the same as No. 133. Most bee-keepers write me that the affected bees seem young, and are black from being bald.—A. J. COOK.

There must be a mistake somewhere, for old bees do not die in the hive when the weather will admit of their getting out. I should want more knowledge of the case to give a satisfactory answer.—G. M. DOOLITTLE.

Queries No. 133 and No. 134 undoubtedly refer to the same thing, but it is hard to tell the cause. We have seen something similar, though on a smaller scale, but cannot tell the cause as yet.—DADANT & SON.

It is nothing strange that a colony should lose that number of bees daily. Just why they do not go off to die, I do not know. Perhaps cool weather is the cause. I do not apprehend anything serious.—JAMES HEDDON.

If the colony was for a long time queenless, and a new queen has been lately introduced, the bees may be and probably are dying from old age, before the young ones are able to take their places.—J. E. POND, JR.

You do not say how long this state of things has been going on. I have, on a few occasions, known a colony to become demoralized—by reason of the attempt of a stray swarm, to enter their hive, or from an attack from robbers—and become so muddled that they seemed to be unable to recognize each other; and hence carry on a systematic inquisition and murder among themselves for a day or two at a time. —G. W. DEMAREE.

Probably nothing serious is wrong with the colony, if only the old bees are found dead and dying. In very populous colonies there will always be found a few dead bees in and about the entrances of the hives in the morning; doubtless so many will not be found every morning. Dew or condensed vapor on the alighting-board in the early morning is the cause of the death of many old bees, by their falling on their backs and being unable to arise. I prefer a rough and unpainted alighting-board on this account, with one edge beveled and two nails driven in the upper edge to rest on the entrance.—G. L. TINKER.

Convention Notices.

☞ The Maryland, Virginia and West Virginia Bee-Keepers' Association will meet in the Court House at Hagerstown, Md., on Oct. 21, 1885, at 10 a. m. D. A. PIKE, *Pres.*

☞ The Progressive Bee-Keepers' Association, of Western Illinois, will meet at Macomb, Ills., on Thursday, Oct. 15, 1885. Let everybody come and have an enjoyable time. Good speakers are expected.

J. G. NORTON, *Sec.*

☞ The New Jersey and Eastern Bee-Keepers' Association having accepted an invitation to meet with the Mercer County Board of Agriculture, of Trenton, N. J., will hold their semi-annual convention in the Grand Jury Room of the Court House at Trenton, N. J., on Thursday and Friday, Nov. 5 and 6, 1885, at 10 a. m. A full attendance of the members is requested. To all persons interested in our vocation, we extend a cordial welcome. The committee of arrangements have secured hotel accommodations at reduced rates.

WM. B. TREADWELL, *Sec.*

☞ The Western Bee-Keepers' Association will hold its fourth annual meeting in Independence, Mo., on Thursday and Friday, Oct. 15 and 16, 1885. The Association will endeavor to make this the most interesting meeting yet held, and will spare no pains within its means to make it valuable to all. Several of our most prominent bee-keepers have signified their intention to be present.

C. M. CRANDALL, *Sec.*

☞ On account of the great rain on Aug. 29, the meeting of the Marshall County Bee-Keepers' Association was postponed until Saturday, Oct. 17, 1885, when a meeting will be held at the Court House in Marshalltown, Iowa, at 10:30 a.m. Subjects for discussion —"How to winter bees successfully," and the "Care and Sale of Honey." Bee-keepers of adjoining counties invited. J. W. SANDERS.

☞ The Central Michigan Bee-Keepers' Association will meet in the Pioneers' Rooms in the State Capitol, at Lansing, Mich., at 9 a. m., on Nov. 12, 1885. All who have bees or are interested in bee-culture, are invited to attend. E. N. WOOD, *Sec.*

☞ The next annual meeting of the Northern Michigan Bee-Keeper's Association will be held in the Council Rooms at Sheridan, Mich., on Oct. 22 and 23, 1885. A cordial invitation is extended to all.

F. A. PALMER, *Sec.*

☞ The 4th semi-annual meeting of the Wabash County Bee-Keepers' Association will be held at North Manchester, Ind., on Oct. 10, 1885, in the G. A. R. Hall, Union Block. First session at 10 a. m. All bee-keepers are cordially invited to be present.

J. MARTIN, *Sec.*

CORRESPONDENCE.

Explanatory.—The figures BEFORE the names indicate the number of years that the person has kept bees. Those AFTER, show the number of colonies the writer had in the previous spring and fall, or fall and spring, as the time of the year may require.

This mark ⊙ indicates that the apiarist is located near the centre of the State named: ♁ north of the centre; ♀ south; ⊶ east; ⊷ west; and this ♂ northeast; ⊸ northwest; ⟜ southeast; and ⚲ southwest of the centre of the State mentioned.

For the American Bee Journal.

Good Reputation, Paper Boxes, etc.

17—G. M. DOOLITTLE, (50—100).

Each year from 1871 to 1877, I sold my honey to a honey-merchant residing in Syracuse, N. Y., delivering it there by wagon, so that it always arrived in first-class condition. As the merchant always took all the honey I had, both extracted and comb, together with all the dark honey, I considered it a good thing for me, and would still think so if I could thus sell my honey now; but alas, death—that great destroyer of all living—took him away early in 1878, since which I have not sold a pound of honey in that city.

However there was one thing that I did not quite like, which was, that he insisted upon my bringing the honey to him in crates having nothing on them except the weight of the crate and honey; and when I asked him the reason, he showed me stencil plates bearing his own name and address, and said, "I put my name and address on every crate of *really fine* honey which I buy, so as to build up a trade in honey, thus getting a name second to none, for all inferior honey goes without my name. If I allowed you to put your name on the crates it would not help me any, and as long as you sell to me each year it could be of no benefit to you." After a year or two I saw that his line of reasoning was correct, for every year gave him a larger range of customers until at the time of his death he handled honey by tons, where he had handled it by the 50 pounds when he began.

After his death I began shipping honey on commission, and wrote my commission men asking them if they would not allow me to put my name and address upon each crate. To this they objected, but said that they had no objection to my putting the name on the sections inside the crate, if I wished to do so. Accordingly I procured a rubber stamp with the words, "From G. M. Doolittle, Borodino, N. Y.," upon it as well as a dating apparatus good for ten years. I could now in a moment put my name and address on anything I wished, from a postal card up to a bee-hive, and with the date thereon if so desired. Taking the hint given me by the honey-merchant, I only put my name on the really nice honey, and let all "off grades" go without it. After the sections were all in the shipping-case, and before the cover was put on, I could in a moment's time stamp all the sections, thus letting the consumer know by whom it was produced, while the commission merchant got all the credit with the retailer, unless perchance he desired to deal direct with the producer.

Thus it happens that I get requests like this: "I purchased of Mr. So-and-So a splendid article of honey bearing your address. As it gives the best of satisfaction, for how much could you send me —— cases of the same?" For the past few years I have had many calls for honey after I had sold my entire crop, so it will be seen that the plan of a shrewd merchant has not been lost, even if he did keep me where he wished while he was living.

Why I said in the first of this article that I would be glad to sell as I formerly did, was that there is an advantage in selling the whole crop to one person, for cash on delivery, not gotten by selling the crop out in small lots or by shipping it on commission. All will think of some of these advantages without my enumerating them. However, it so happens that the most of the large producers cannot so sell to one party each year, and for this reason I give the above plan as I believe it to be the correct one to work upon when we cannot sell our whole crop to one person.

MARKETING HONEY IN PAPER BOXES.

I have received a circular concerning folding paper-box, stating that a reputation can be built up by the producer of comb honey by using such a box for each section, slipping the same inside the folding box. On this box the name and address of the producer is to be printed. I can see no reason for adopting the above over my plan as above given, unless it be the tape string to carry it by; while I do see reasons why bee-keepers should not use it. The first and greatest objection is, that it excludes the honey from sight. All know that comb honey sells itself from sight, and that much honey which is now consumed never would be used except for its attractive appearance. To talk of a colored labeled box looking more attractive than a nice white section full of comb honey is all nonsense, and as this box virtually excludes from the eyes of the public the attractiveness of our product, I consider it a move in the wrong direction.

Again, the sight of comb honey is all the caution necessary to the ordinary railroad man for its careful handling. If the paper boxes are employed, a caution label must be used on every shipping-case, and such label will be scarcely noticed compared with nice combs of honey. For this reason the paper box is unfavorable toward the safe transporting of our product.

Again, it costs too much. Every "mill" added to the cost of each package of honey takes just so much out of the producer's yearly profits. At the low price of 1¼ cents per package, for these paper boxes, $125 is required to enclose a crop of 10,000 pounds of comb honey in one-pound sections. This would be an item well worth considering to the large producer. I could give other reasons why we cannot afford to use these boxes, such as freight charges, carting from the railroad, folding of the box and putting the sections in, etc., but the above reasons, I think, are sufficient to convince all that paper boxes are not to the bee-keeper's interest.

Borodino,⊙ N. Y.

For the American Bee Journal.

The Kentucky Convention.

G. W. DEMAREE.

Of all the good bee-meetings that I have attended in the past, our meeting at Covington, Ky., on Sept. 23 and 24, 1885, was the most enjoyable. The gathering was not great in numbers, still the attendance was fair, and everything seemed to conspire to make the convention more than usually pleasant. A number of visitors from Ohio and Indiana were with us, and one gentleman from the "Lone Star State" (Texas) took part in our deliberations. Mr. Chas. F. Muth was there as one of us. We claim an interest in him, though he lives across the line, in the "Queen City."

But the crowning glory of the convention was the presence of our beloved father in modern bee-culture, Rev. L. L. Langstroth. I had often wondered if the marvellous popularity of Father Langstroth depended alone upon his genius as an inventor, and upon his enthusiasm as a writer and a bee-culturist. Now, after being with him, and conversing with him on many topics, I am convinced that only those who know him personally and socially can fully appreciate his noble qualities of heart and mind. He is a most delightful conversationalist, not only concerning the subject of bees, etc., but concerning all matters of interest. He tells many pleasing anecdotes, and recites popular "sayings" with such perfection of voice and emphasis that they seem to take on new and fresh meaning.

Mr. Langstroth, at his advanced age—nearly 75—is still carrying on a series of careful experiments with bees, queens, etc., and promises a new edition of his work on bee-culture. He took an active part in the discussion of important points connected with bees, hives, and implements. His address explaining the steps which led to his invention of the "movable frame," was the most interesting feature of our meeting, because it was new to a majority of the persons present.

The President, Rev. L. Johnson, spared no pains to make the convention a great success, and to provide for the wants of members and visitors, he made arrangements with the proprietor of the Rouse Hotel to entertain visitors and members of the association at about half the usual charges; and the proprietor, Mr. Rouse, in his successful efforts to make us all comfortable and happy, gained many friends among bee-men.

Bee-keepers are not only the friendliest people in the world, but they have a keen sense of the ludicrous. Mr. Rouse prepared a large upper room for four of us—Father Langstroth, President Johnson, Secretary Connley and myself. The two last maned "will talk" after they retire for the night. So after Father L. and the President were busily "sawing gourds," Connley and myself talked over "old times," and wound up on bees. The next morning President Johnson, after getting us before the crowd, got off the following: He said that when he went to sleep Brothers Demaree and Connley were talking busily; and when he awoke in the morning the first sound he heard was the voice of Bro. Demaree thus: "As I was saying," and the response of Connley, "That's it—that's right." Of course the laugh was at our expense.

A desirable feature of our deliberations was a successful effort to keep out of the old ruts. For example: Instead of discussing "How to winter bees," we changed it to the "Cheapest and most economical method of wintering our bees in this climate." Thus we were led into a new channel. The same improvement was noticed in other questions.

The display of bees, honey and implements was very fine. Mr. Muth, being near his home, made a splendid show of extractors, uncapping cans, smokers, and nearly everything pertaining to bees and honey. Some rare and new devices, or implements, were displayed. Such as queen-nurseries, queen-cages, frames, reversible frames, feeders, etc. A careful examination of this display would convince any well-posted person that Kentucky bee-keepers are not lacking in inventive genius.

A point clearly brought out by this convention of bee-keepers was that the past season has been nearly a failure all over the State.

Christiansburg,♁ Ky.

For the American Bee Journal.

Fall Crop of Honey, etc.

L. J. KEYES.

Goldenrod has yielded little or no honey in this region this fall, although my bees have stored about half an average fall crop from second-growth red clover, which appears to be quite abundant in this locality. I have prepared 24 colonies for cellar-wintering, by equalizing the weight of each to 60 pounds (the hives being 8-frame Langstroth), allowing 30 pounds for the hive, 5 for bees and pollen, and 25 pounds of honey. My cellar is cemented both on the bottom and at the sides, with a ventilator made of a 4-inch pipe running to the chimney above, and a hanging window to the east. Each hive is prepared with a top-board containing a ⅝-inch slot through it and across the entire back end, the hive to be placed slanting torward, with the full entrance open. This will give ample circulation through the hive, while the ventilator will draw off the foul air from the cellar. I hope to be able to report, next spring, a successful wintering.

Nora Springs, ♂ Iowa, Sept. 28, 1885.

For the American Bee Journal.

Producing Honey in Section-Boxes.

W. H. STEWART.

I am of the opinion that the time is not far distant when our honey markets will be supplied with extracted honey only, and honey in the comb, even in sections, will go out of use. I will endeavor to give some of the reasons and facts upon which I base this opinion.

I relish the same honey much better when free from everything but pure honey itself, than when mixed in my mouth with broken fragments of beeswax; and I judge that others, when they are well satisfied that extracted honey is as pure and in every way the same article as that which they get in the comb, will choose the extracted, and there will be no demand for honey in the comb. Who ever heard of a person who was fond of dry honey-combs with biscuit and butter? People do eat the waxen combs, not for the sake of getting the wax, but for the honey that is present with the wax. A horse or ox will eat dry forest leaves when mixed with green grass; not for the dry leaves, but for the green grass with which they are mixed, and because of their inability to separate the desirable article from the undesirable one. I have never known a person or an animal that would choose to use beeswax alone, as an article of diet.

When honey first appeared in this market in one-pound sections, I was delighted with its appearance and forthwith concluded that that was the only true manner of preparing honey for the market; and as those sections sold rapidly at 20 cents each, I also concluded that there was good pay in putting our honey all in the market in that shape; and also that prices would continue about as they started out. I quickly prepared a large quantity of sections and crates, and found ready sale in my home market for all the one-pound packages of honey that I could produce from 100 colonies. The second year I could only get 15 cents for the same quality of honey in the same shape; and the third year I worked part of my bees for extracted and a portion for honey in sections, but I soon found that my customers would give me no more per pound for comb than for extracted honey of the same quality. At that time I tried for better prices in other markets, and lost much by breakage and leakage, in shipping, which took off all the profits. The fourth year I used $100 worth of sections and crates for kindling wood.

I notice, however, that up to the present time there has been a demand in some markets for comb honey in sections, and that many bee-keepers are producing honey in that shape to supply that demand. The producers have always had to contend with the cry of "fish-bone" in comb honey in sections, because the bees many times fail to work the foundation out as thin as the consumer desires it. This cry of "fish-bone" is ample proof that it is not beeswax but honey that consumers like to eat.

I now propose to show how to produce comb honey that will have no foundation-wall in the centre of the comb, but have cells extending through the comb from side to side, and the only wax to be eaten will be the cell-walls and the cappings. Another advantage that will be gained by the use of the sections which I am about to describe, will be reducing, if not altogether avoiding, the danger of breakage in shipping. Bee-keepers will readily catch the idea which I wish to give, if I make the following supposition:

Suppose you have sections wide enough to contain a comb 1¼ inches thick, and that you are using separators close up to the back side of the sections, and a bee-space between the front of the sections and the next separator. Now, instead of hanging foundation in the centre of the section, in the usual way, let us suppose that the inner side of the separator has been coated with wax, and then placed under the top die of a press similar to the Given press—except that it should be so made as to make flat-bottom foundation, and have the under plate of the press with a smooth surface. By this means the starter is made on the surface of the separator, and the bees start their work on the foundation that is thus given them. Having only one side of the foundation, they work out the cells 1¼ inches deep, and then cap it over, leaving a bee-space between the face of the comb and the next separator.

Prepare the section as above described, then insert a bottom on a similar plan as the bottom of a strawberry box; have the upright pieces of the section bee-space wider than the top and bottom pieces; then have the outside of the bottom even with the edges of the top and bottom parts of the section, when this bottom will act exactly as would an unbroken separator. Let the face of the section present an even plane, and let the comb be built even with the edges of all the sides of the section, thus giving the section the appearance of being even full of honey instead of lacking ¼ of an inch of being full on either side, as in the old way. This section would then protect the comb on the four edges as does the old style, and in addition to that protection the comb will be attached to the bottom-board, or separator, giving it double the protection against breakage in shipping.

This section forms a little dish that, when full, holds one or more pounds; and in shipping it may rest upon its edge or on its bottom. A neat label may be placed on the outside of the bottom, covering the whole surface, thus being an advertisement for the producer, and at the same time covering all the bee-stains that are sometimes found on the surface of separators. The weight of these packages will be found more uniform than the old style, as there can be no bulging of one comb into another.

When this honey is placed in the hands of the house-wife, she has only to run a knife around the edges of the comb, then remove one side of the section (which must not be nailed to the bottom of the section when it is made); then run the knife between the comb and the bottom, or foundation, and lay the honey over on the plate with the caps down. Thus the honey is without the "fish-bone;" and as I know you do not like to eat much beeswax, I have given it to you in the shape of comb honey, and with the least possible amount of wax. How do you like it?

Orion, ♀ Wis.

For the American Bee Journal.

The Iowa State Convention.

The third annual meeting of the Iowa State Bee-Keepers' Association was held in the Homestead Tent on the Fair Grounds in Des Moines, Iowa, at 9:30 a.m., Sept. 8, 1885. The President, Rev. O. Clute, being absent, the Vice-President, Mr. O. O. Poppleton, occupied the chair. The Secretary also being absent, A. J. Norris was chosen to act in that capacity.

The order of the forenoon was brief accounts of the past season, by each member, as follows:

Mr. Thos. Tracey, of Chickasaw county, wintered his bees in a cellar, and his loss last winter was very heavy. His crop this season is 1,000 pounds of comb honey in 1½-pound sections. Mr. Sorrick, of Des Moines, put 100 colonies into the cellar last fall, took out 8 in the spring, and has increased them to 15. Mr. J. M. Culley, of Greene county, wintered 5 colonies in an out-door cellar, and all came through in fair condition. A. J. Norris, of Black Hawk county, reported that last fall his number of colonies was 318, and last spring 190. He bought 90 colonies in the spring, and with the increase he now has 484. The honey crop for this season, he said, was one-fourth less than an average yield. He wintered 34 colonies out-doors in single-walled hives, buried in snow, of which 15 survived, and the balance were wintered in cellars. The probable cause of so heavy a loss was a wet, cold spring, and a scarcity of honey in the fields last fall, consequently brood-rearing was stopped at too early a date.

Mr. B. F. Graham, of Grundy county, wintered a few colonies without loss, and has increased them 200 per cent. Dr. Jesse Oren, of Black Hawk county, put in the cellar last fall 209 colonies, in the spring carried out 208, and on June 1 had 190. The yield of honey was fair the first part of the season. He worked his bees principally for comb honey, increased his apiary to 260 colonies, and in August doubled them back to 220. He thinks that they are lighter in stores at this date than they were when he united them in August. Mr. D. C. Smoke, of Poweshiek county, put 17 colonies into the cellar last fall, carried out 17 colonies in the spring, and on June 1 had but 2 left. He then bought 20, and increased all to 44 colonies. His crop for the season of 1885 was 200 pounds of comb honey and 900 pounds of extracted. He kept his cellar at an even temperature of 32°. The yield of honey was fair in the first part of the season, but there had been no honey for the last five or six weeks. Mr. J. L. Edwards, of Johnston county, had 2 colonies last spring, and now he has 14, strong in bees but light in honey.

Mr. Frank Curl, of Des Moines, gave his experience with foul brood. He thinks that the starvation plan is the best way to handle it. When it gets into a locality in the South it is there to stay, and continues to spread, the winters not being cold enough to freeze out the wild bees which are very numerous in that climate. Mr. Geo. M. Thompson, of Greene county, put away 4 colonies last fall, and all were wintered, but he lost some by spring dwindling. Mr. Wm. Kimball, of Clinton county, put 160 colonies into a bee-house last fall, lost one in the winter, and three after putting them out. His bee-house was partly under ground. He has increased his apiary to 200 colonies in good condition, and worked them for comb honey. Mr. O. O. Poppleton, of Chickasaw county, had 236 colonies packed out-of-doors last fall, and 110 of them came through the winter in good condition. He increased them to 200 colonies.

The general report as to the loss of bees last winter was, "very heavy;" and as to the honey crop this season, "only fair," or "below the average."

Dr. Oren asked, "Will the age of bees affect the wintering of colonies?" He gave some of his experience with old bees, and thinks that there is not much difference. Mr. Poppleton thought it only affected them in the spring, after being taken out, when the weather is cold enough to retard the rearing of brood. Mr. Tracey thought when the queen stopped laying early, the bees would come out in the spring in a poorer condition than when she keeps up her share of the work until October.

The convention then adjourned to meet at 2 p.m.

AFTERNOON SESSION.

The report of the Treasurer was read, showing a balance of $36.74 on hand, and also accepted. The annual election of officers resulted as follows: President, O. O. Poppleton; Vice-President, D. C. Smoke; Secretary, A. J. Norris; and the Treasurer, Mr. Sorrick, was re-elected.

The executive committee were instructed to purchase a tent for next season's meeting. Rev. O. Clute, Wm. Kimball, and A. J. Norris were made a committee to arrange a standard of excellence for honey and bees, and to bring the same before the State Board of Agriculture at their annual meeting this winter.

The old problem of "Shallow *vs.* deep frames" was then discussed.

Mr. Tracey uses a frame 8 inches deep; Mr. Kimball uses frames 11 inches deep, and 9 in a hive. He prefers to have more honey in the brood-nest. Mr. C. P. Hunt said that he had used the American and Langstroth frames, but preferred a frame 10 inches deep, and 10 in a hive, both for comb and extracted honey. Mr. Bittenbender thinks that there should be a standard frame for extracted honey, and also one for comb honey. Mr. F. G. McGau, from Illinois, a former student of Rev. L. L. Langstroth, said that undoubtedly the deep frame was the best to winter bees on, but one deeper than the Langstroth frame would be detrimental to the production of comb honey. He advised all to use the Langstroth hive only, for it was taking the place of all others. He said that a hive holding 63,000 cells was just right; a prolific queen would lay 3,000 eggs in 24 hours, and that would keep each hive full.

Dr. Oren explained his method of wintering bees. He places his (Langstroth) hives at an angle of 45°, in rows along the cellar, and puts on planks; then another row, and so on until the cellar is full. He said that the advantages were that it made a deep frame out of a shallow one, and when a bee died it would roll out instead of being carried out by a live, healthy bee, to perish on the cellar bottom with her dead sister.

It was finally decided that a shallow frame was best for all purposes, when wintering bees in the cellar.

"Does it pay to unite weak colonies in the spring?"

Mr. Smoke thought it not best when there was a good queen to be sacrificed. Mr. Tracey and others thought that it did not pay.

"Does the use of foundation in the sections injure the sale of comb honey?"

Some thought that in the future, when people became better acquainted with comb foundation, it would not be objectionable. Mr. Bittenbender thought that good, new foundation would be drawn out as thin as natural comb.

The convention then adjourned to meet on the following day at 9 a.m. An invitation was given to meet in the evening at Mr. J. M. Shuck's office, in Des Moines.

The failure to have a tent this season was unavoidable, but next year it will be a sure thing. Some of the members present offered to make the amount sufficient to purchase a tent large enough to accommodate the convention in its more prosperous days.

On Thursday forenoon the Association extended their thanks for the Homestead Tent, and adjourned until some time next season, notice of time and place of meeting to be given hereafter.

A. J. NORRIS, *Sec.*

Connecticut Farmer.

Feeding Bees for Winter Stores.

H. L. JEFFREY.

This month and the forepart of next is the time bees should be closed up in the hives for winter, and those without enough stores for wintering should be fed immediately, if they are intended to be wintered.

Those in box-hives that have a box-chamber should have the boxes taken out and the chamber filled with fine hay, grain chaff, or dry cobs to absorb the escaping moisture, and it often prevents the combs from being frost, broken; those without a chamber should have a piece of board laid on the top to prevent the freezing and thawing of the top edges of the combs. Those having scanty stores can be fed with the fruit-jar feeder in the chamber, or with a pan filled with syrup, and placed under the hive.

To make the food to rise in either the fruit-jar or pan, take two quarts of either coffee A or C sugar and one quart of boiling water, to which add a small pinch of salt and a half teaspoonful of cream tartar. These proportions make a very safe feed, and if properly attended to it is even better than honey in a great many cases.

Movable-comb hives should be looked over and examined closely. The combs of colonies of medium strength should be reduced to about 5, if they contain about 20 pounds of honey, the amount usually consumed from October till May; and if they are snugly tucked up it will last longer than if allowed to winter carelessly.

A colony may be considered safe to put up for winter if it has 15 pounds of honey and a division-board placed snugly on each side and fastened firmly in place. The vacant space may be packed with dry apple-tree leaves, chaff or fine hay, and a piece of coarse cloth placed over the top of the frames with a quantity of the same material above the frames; and when bees are thus provided for they can be called in fair condition to winter. All colonies that are given what combs they can conveniently cover, and shut down with tight division-boards, being well packed in the spaces and above the frames, will in every case, if they contain a good queen, come out one-third better than the same colony that is left alone. They do not feel the variable cold and warm weather in the fall; then when spring comes they do not fly out on the first warm day that comes, but when they do begin to stir they will get along a great deal faster than others not packed; and will, in most every case, show a very marked difference when the time comes to either swarm or take surplus from them. In nine cases out of ten, of colonies taken care of as directed, 12 will do better than 18 if left without care, besides the difference in the amount of honey consumed in the 2 methods.

If it is feared that a colony has not honey enough in the number of combs best adapted to its strength, take as many pounds of sugar as will make up the required weight, moisten it with one-fifth its bulk of boiling water, and work it with a spoon or stick in a basin on the stove till it is a smooth, stiff paste, then pour it into shallow tins or wooden frames placed on a greased paper on a board; let it cool, and it then is ready for use. With this candy it is almost an impossibility for a colony of bees to starve if they are properly packed with material to keep them of as even a temperature as is possible. The candy is to be placed on top of the frames over the cluster of bees, and then covered tightly to prevent the escape of warmth and moisture, as both elements are necessary that the bees may be able to work on the candy and convert it into shape to store it in the combs. This candy is similar to that used in the spring to induce early breeding.

Woodbury, Conn.

For the American Bee Journal.

The Kentucky State Convention.

The annual meeting of the Kentucky State Bee-Keepers' Association assembled in Walker's Hall in Covington, Ky., at 10 a.m. on Sept. 23, 1885. The President, Rev. L. Johnson, occupied the chair. There were present besides bee-keepers of the State, quite a number from Ohio, notably among whom were Father L. L. Langstroth and Chas. F. Muth, besides Dr. Lay, of Texas, T. Hulman, of Terre Haute, Ind., and Mr. I. Mucci from Italy, who is now at Lexington, Ky.

The President appointed P. McVean, A. W. Stith and J. T. Connley as a committee to draft and report an order of meeting. They reported that the association should meet at 1:30 p.m. for permanent organization, and meet thereafter at 7:30 p.m., at 9 a.m., and adjourn at leisure.

The Rev. L. L. Langstroth was feeling well, and his remarks were full of wisdom. Every one profited by the wise sayings as they were uttered by that venerable man. He exhibited specimens of *Apis dorsata* in alcohol, also some volumes of ancient bee-books, from which he read some selections that were unique and quite instructive, proving that some men knew much of the habits of bees centuries ago.

In regard to honey-flows, Mr. Langstroth remarked that an abundance of fragrance denoted plenty of honey; that when the early flowers were thus deficient, we could expect but little honey later on in the season; that buckwheat was profitable as a honey-source only in cool or moist latitudes, but that in central Ohio and farther south it was of but little value to the bees; that flowers were benefited and fertilized by the visits of the bees, their attendance always producing more fruit of all kinds and more clover seed; and that white clover and red clover always produced abundance of seed when the bees worked on them attentively. He believed that the pure Italians would always be the superior bees, unless a dash of Syrian blood would be a benefit to them. He was a friend to the black bees, but they were deficient in many respects. When honey was plentiful they would do, but when a crisis came they failed. They desert their nuclei, abandon the hives when starvation is imminent, and succumb to robbing, yet they are generally the robbers. He said that the energy of the Italians was wonderful beyond conception, both in obtaining stores and in the defense of their hives against enemies.

The convention then adjourned until 1:30 p.m.

AFTERNOON SESSION.

At 1:30 p.m. the Association met and was permanently organized. The minutes of the last annual meeting were read and approved. Messrs. G. W. Demaree, C. F. Muth, and P. McVean were appointed a committee to draft an order of business, and in their report they embodied a list of ten questions for discussion. A very interesting essay from Mr. J. M. Hicks, of Battle Ground, Ind., was read, which was replete with valuable information about wintering bees and obtaining choice articles of comb and extracted honey.

The President's address was the next order of business, which was delivered in his usual able and animated way. He called attention to the extensive progress made in the art of bee-keeping of late years throughout the world, but especially to its dimensions as a business in America, and said that in Kentucky not one was making it an exclusive business, yet thousands found it a pleasant and profitable pursuit more as a pastime aside from other occupations. He called attention to the superior quality of the white honey produced in Kentucky, and said that with the little attention now given to the pursuit, more than 80,000 colonies were kept in movable-comb hives, with a fair degree of intelligence, which, with the low average of 30 pounds per colony, would amount to 2,400,000 pounds; to say nothing of the great amount taken by the box-hive and "log-gum" bee-keepers, from whom no reliable data could be gathered.

He then spoke of the possibilities of bee-keeping in Kentucky, pictured in his realistic manner, and urged that the apiarist of Kentucky should adopt and recommend a uniform standard frame, and thought that none as yet was as good as the Langstroth frame. He believed that the ten-frame brood-chamber was the best for this latitude. He said that the apiarists of the State had tried all the varieties or races of bees, but so far as could be learned the Italians were the best for all purposes. He thought the State Society should memorialize the Legislature to assist in eradicating foul brood entirely from the State, and that every bee-keeper should try to elevate the pursuit by attending conventions and liberally patronizing the best apiarian literature.

A lively discussion followed the President's address. Mr. C. F. Muth led off by saying that the President's scare at foul brood was rather overdrawn; that while the disease was to be dreaded, it was indeed curable, and that so far as he knew there was not now a case of it in Kentucky.

Mr. G. W. Demaree said that the President's remarks about the possibilities of bee-keeping in Kentucky were timely, and that for two years the committee (of which Mr. D. is chairman) had been gathering information in that direction that would be a surprise to the public.

Father Langstroth said that we all could have but a slight conception of what would be accomplished in the pursuit in the near future, with the use of improved appliances by skilled apiarists, and with improved bees and fields and roadsides smiling with flora, and crops planted for their honey-producing value. As to the improvement of bees, he thought that much good had been done by the importation of Asiatic races; and that although any or all of them did not suit a majority of the apiarists as well as the Italians, yet they would be a great factor in producing the best crosses.

On motion the Association requested Father Langstroth to deliver an address at 1:30 p.m. the next day, on the various steps that led to the invention of his hive. The questions submitted by the committee for discussion were then taken up as follows:

"Are there more than one variety of black bees in Kentucky?" After some discussion it was generally decided in the affirmative.

"Is the Italian bee superior to the black for the apiarists of Kentucky? If it is, in what particular?" The general answer was, "Yes, in every respect when beauty is desired and dollars and cents are considered."

EVENING SESSION.

The discussion continued as follows:

"What is the cheapest method of wintering bees in this latitude?" After an animated discussion by the champions of various methods, the resolution presented by Mr. G. W. Demaree was adopted, viz:

Resolved, That for wintering bees in this latitude, all that is needed is plenty of good, natural stores or good sugar syrup properly concentrated in the brood department, and good, close covers to the hives.

"Is the use of a large or small brood-chamber the most desirable?" The eight-frame brood-chamber had some advocates. Mr. A. W. Stith, a very successful apiarist, uses it, yet nine-tenths of the members present voted that the ten-frame Langstroth hive was the best for this locality, as it could be made smaller when needed, by the use of division-boards, and by "tiering-up" it could be made as large as desired.

"What are the chief enemies of virgin queens at the time of their mating? and what causes, at that time, the frequent loss of the queen's life?"

Father Langstroth stated that their enemies are numerous; that sometimes a family of birds located near the apiary watched for and caught them, and that whilst he was a friend to the little birds, yet when they were known to be guilty of this they should be removed; and that there is a species of large hornet that catches them on the wing, and that they had been known to enter nuclei and drag them out.

Mr. Crigley thought more loss was occasioned by high winds than in any other way.

G. W. Demaree and J. T. Connley concurred in the opinion that more were destroyed by their own bees, by being "balled" on their return from their "bridal tour" than in any other manner—a fact that both of them had observed in numbers of cases.

"At what age is the drone competent for service?" Mr. Langstroth answered, "About the eighth day after emerging from the cell."

SECOND DAY.

The convention met at 9 a.m., with President Johnson in the chair. The election of officers for the ensuing year was next in order, and the present officers—President and Secretary—were re-elected by acclamation.

As to the place of the next annual meeting, the Association was about equally divided between Lexington and Frankfort. It was thought best that the President appoint State Vice-Presidents at leisure, and that the time and place of the next annual meeting should be arranged by the executive committee, and be published hereafter.

At the annual meeting of the Association in September, 1883, Mr. G. W. Demaree, of Christiansburg, Dr. N. P. Allen, of Smith's Grove, Mr. W. C. Pelham, of Maysville, and J. T. Connley, of Napoleon, were appointed a committee on "The Development of the honey and bee-keeping resources of Kentucky." Mr. Demaree, the chairman of the committee, reported that they had procured valuable statistics and other useful information, and the whereabouts of the choicest locations in the State—all of which was ready for publication in pamphlet form. The report was accepted, the committee continued, and also requested to do as they think best in regard to the immediate publication of the report.

The discussion of questions was then again taken up.

"What should be done to protect beginners from the wiles of patent-hive venders?" The general opinion was that the fraternity should endeavor to keep beginners posted, and that the beginners should help themselves by taking bee-papers.

"Is more thorough organization on the part of bee-keepers needed to protect their best interests?" The unanimous answer was, "Yes."

"Is it advisable to remove the pollen from the hives in preparing bees for winter in this latitude?" "*No.*"

The convention then adjourned till 1:30 p.m.

At the appointed time the Association assembled to hear the address of Father Langstroth. The writer must acknowledge his inability to properly comment here upon the address. The presence of our venerable Father of Modern Apiculture added much to the interest and value of our meeting. He spoke with much force and effect in his eloquent manner; told of his love for bees in early life; of the many annoying mistakes made for want of knowledge; of the absence of books and men of experience from whom to learn; and recounted the various steps that led to the invention of his movable-frame. He mentioned in the most feeling manner the great assistance rendered him by his estimable wife in times of his great afflictions, and lastly paid an affecting tribute to our honored dead—Samuel Wagner, Moses Quinby, Adam Grimm, Richard Colvin, W. W. Cary, and others who did so much to elevate American apiculture to its present high standard.

After the address the Association adjourned, and the members busied themselves for awhile among the splendid exhibits of bees, honey, extractors, smokers, nurseries, cages, and many other apiarian appliances.

J. T. CONNLEY, *Sec.*

Country Gentleman.

Burying Bees for Winter.

C. J. ROBINSON.

The great difficulty in the premises lies in our want of acquaintance with the vital faculty of the bee, and the science pertaining thereto. We may fancy that bees are dependent for their well-being on the same agencies as ourselves; but a moment's reflection can scarcely fail to show such a supposition an obvious error. It is well known that bees are so constituted that they have the faculty of remaining torpid (chilled) during several days, and then, by genial warmth, revive again. Moreover, the normal condition of bees while reposing in confinement occasioned by cold, is a semi-dormant state, in which there is scarcely any animate action, and very little consumption of vital air (oxygen) and carbonaceous matter (food), and little waste of tissue. Hence, the cry about "pure air," unless bees are in a state of activity, is all "bosh," no matter whence it emanates.

The more inanimate bees remain, the less oxygen and food they require, and the less consequent waste of tissue and vitality—wearing out—during winter. Therefore the conditions that afford bees the most tranquil repose through the very cold season are the most advantageous.

Bees while in a torpescent state repose safely in dead air—a partial vacuum where there is no oxygenated atmosphere to excite vitality. They must have pure air to respire while not in a quiescent state. Cold produces an uneasy sensation in all creatures by the escape of heat or genial warmth, and the consequent contraction of the fine vessels. Heat expands the vessels, and cold contracts them, and the transition from an expanded to a contracted state is accompanied with a sensation that produces a shock affecting more or less all living creatures, and seriously affecting the infirm and those of small vital power.

In studying the subject of safe wintering, we should bear in mind that the normal condition of bees is not always the same, but that they are in some respects like the "sleepers"—the bear and the marmot. The stupid reasoning that honey-bees require pure air and ventilation through winter, is as fallacious as would be a claim that hibernating animals require fresh air during their dormant state. While bees are clustered in a cold, circulating atmosphere they do not repose quietly when the temperature is below freezing. The colder it is the greater the action required to generate warmth to sustain life, and the greater must be the consumption of oxygen and food as fuel. The "happy mean"—near the freezing point—affords the choice of evils—a quiescent state. A variation of a few degrees, either above or below freezing, changes the circumstances of condition materially. It would be the same with "sleepers."

During winter, if the condition of bees be such that they consume comparatively large quantities of food, they thus live fast and grow old from the over-taxed expenditure of vitality, and waste of time consequent on excited exertions to maintain an existence; that is, they run their allotted race sooner—a sequence that is one of the fators of "spring dwindling."

It is obvious, then, from the foregoing, that the most successful method of wintering is attainable by having the bees repose in an atmosphere slightly charged with oxygen, and the temperature as before indicated. This end is attained by means of "clamps," so-called, for winter quarters.

My experience with "clamps" extends over a period of about a quarter of a century. I first derived my knowledge of the "clamp" method from Mr. Langstroth's book. He got the plan from a German who practiced burying bees in Germany—burying the hives in about the same way as potatoes are kept in pits. In the arrangement of the clamps which I constructed at first, I missed the end I now have in view by which to attain the best success. I fancied that my repository for bees must be ventilated, else respiration would cease, followed by death. I discovered that in this supposition I was in error. At first I constructed my clamps with air-tubes in the bottoms of the clamps and a chimney ventilator in the top, so as to provide fresh air circulating all through the clamp. This ventilating defeated the valuable points gained by excluding the external atmosphere and providing a partial vacuum or dead-space within the repository. The clamps described by Mr. Langstroth, and such as I first experimented with, are about the same sort of winter quarters as cellars. The point gained by burying is an unchangeable temperature of the proper degree for bees to repose tranquilly in dead air, with scarcely any consumption of honey.

My method of constructing clamps is quite simple in arrangement. First, I dig a pit some 20 inches deep in any form desired to pack the hives. I nearly fill the pit with dry straw thrown in loosely, place strips across the pit on which the hives are to rest, and place the hives in order thereon. I then start walls with boards at a little distance from the hives, so as to allow a dead-air space all around between the hives and walls. The vacant space should be equal to half or one-fourth of that occupied by the hives. The walls need not be nicely made; a skeleton frame-work that will keep a coat of straw at the proper distance from the hives, and sustain a covering of earth over all, is all that is required. All earth within the clamp should be covered with dry straw or hay, to prevent moisture from accumulating within the hives. A covering of earth is put over all, in the way potatoes are covered in pits. When the hives are placed over the pit, I arrange for ventilating them by placing over the frames a burlap, or something that allows rarified moist air to permeate upward. I leave no opening that would allow mice to get into the hives. When I cover the clamps, I place a tube in the top for a ventilator, and allow it to remain open until the bees become tranquil and quiet, and cold weather sets in. I then close the ventilator until spring-like weather, when it may be opened. Burying bees in clamps should be delayed as late as possible before the freezing of the ground prevents the undertaking.

Tioga County, ♀ N. Y.

For the American Bee Journal.

The Bee-Suits—Points Involved.

2—W. J. ROBERTS, (2—5).

I have just read the item on page 611, by Mr. Gustav Bohn, of San Francisco, Calif., and the Editor's response thereto. The legal questions involved in suits against bee-keepers for alleged injuries caused by their bees, are generally well settled. The principles are the same, whether it be bees or cattle, or other animals. If injury is inflicted through the negligence of their owner, he is liable for the damages sustained.

The only unsettled question is, whether, in case one's bees go on the land of another, though they inflict no injury, their owner would be liable for nominal damages for a trespass. I have been unable to find a case in which this question (which really is, have bees the right to fly?) has ever been raised. There are many elements which should be considered should this point ever arise for determination.

In the Wisconsin and California suits, the vital questions will probably be ones of fact—first, was there damage inflicted? and second, were they the defendant's bees which caused the damage?

The first question should be met by the testimony of bee-keepers, who alone have knowledge of the habits and characteristics of bees, to the general effect that vegetation is benefited by the visits of bees, and that bees make no attacks on live stock away from the immediate vicinity of their hives.

The second question the defendant can leave to the plaintiff, who must prove that they were the defendant's bees which caused the alleged damages. Bee-keepers can appreciate that he will have no very "sweet" time at it.

Keokuk, ⚲ Iowa.

For the American Bee Journal.

Marketing Honey.

J. H. ANDRE.

The honey harvest is over, and now the sale of the crop will be the next thing in order. Heretofore it has been a sort of go-as-you-please style—each one for himself; but of late I have been pleased to see much discussion on this subject. The trouble is just this: The matter has been left entirely to outsiders (small grocerymen and wholesale dealers), and they have paid what they please, and charged the same, both the producer and consumer being at their mercy. They pay on an average about 10 cents per pound and charge about 18 cents per pound for comb honey. (I am speaking of small markets where no quotations are given, for there one usually finds the retail price from 2 to 3 cents per pound higher than in large cities.) As long as bee-keepers allow this to go on, just so long will it be one of the many drawbacks to bee-keeping.

I was recently informed that the market price was 10 cents for small sections of honey, when I had just disposed of some honey in glass boxes, such as described on page 167, for 12 cents, and get the boxes back again. This is equivalent to 14 cents or more, and the boxes may be used for years. Another bee-keeper sells honey in large boxes for 12½ cents per pound by the quantity.

Now, if all small bee-keepers would practice this, their surplus could be disposed of at a higher price than would be paid in the village market, and it would be putting the crop before a class of people at a price that would enable those to buy who had heretofore considered honey a luxury; and in three years there would be a demand for five times the amount that there is now. This would give those having a large amount a chance to send theirs to the cities at a fair price, and bee-keepers would soon have something to say, or rather do, in their own interest.

One cannot expect to meet with great success at first, but rather work up a line of customers who would look for his coming, say once in two weeks. With most bee-keepers the day may not be spent for this purpose entirely, but may be taken for a general market-day near railroads or factories. The next day after pay-day is a good time.

In short, I find that we must do what the BEE JOURNAL has advised—"*create a demand*;" and in order to do this we must deal directly with the people rather than with a few individuals who have it all their own way.

Lockwood, ♀ N. Y.

For the American Bee Journal.

Second-Swarms—Selling Honey.

CHARLES MITCHELL.

Mr. Heddon said last season that I must be at fault in regard to colonies swarming the second time. Perhaps so; but this year I tried every possible means—even letting the hives of some colonies remain till the 7th and 8th day—and still they swarmed after being moved, and when young bees were actually taking their flight in the middle of the day. They certainly were second-swarms, and not old queens swarming the second time.

I would say to Mr. Greiner that the Heddon system of the prevention of after-swarms has no reference to first swarms. I have practiced it for two seasons on 50 colonies, and I am not of necessity mistaken. I will still try it, as I know of nothing better, and I will give up bee-keeping if I have to return to hunting up queen-cells; for I tried that for years, and often left the worst cell in the hive, buried up somewhere, to lead off a second-swarm. We certainly owe much to our fellow-bee-keepers in the United States, but any one will see, by our late Toronto convention, that we have some first-class apiarists in Canada, and such a meeting is a credit to any locality.

Selling comb honey for two seasons, in the following way at our fall bee and honey show, disposed of my crop in one day: I get some of the whitest wrapping-paper and cut it in pieces about 4 by 6 inches, and with a knife cut the sections of honey from one corner to the other, both ways, taking hold of one corner and separating it into four equal pieces. I laid the pieces of honey upon the paper and sold them at 5 cents each. I think this is one of Mr. J. B. Hall's methods. Of course I try to keep up a very attractive and tempting exhibit, and always put comb honey on shelves with a blue paper back-ground.

I had tried one of our grocers for years, to sell my honey, and he always refused; but this year he saw the attraction my honey caused, and knowing that he lost 5 cents on each section, he came to me for comb honey, but I had none left for him, and likely never will have.

Molesworth, Ont.

☞ All who intend to be systematic in their work in the apiary, should get a copy of the Apiary Register and commence to use it. The prices are as follows:

For 50 colonies (120 pages)............	$1 00
" 100 colonies (220 pages)......	1 25
" 200 colonies (420 pages)...........	1 50

The larger ones can be used for a few colonies, give room for an increase of numbers, and still keep the record all together in one book, and are therefore the most desirable.

Local Convention Directory.

1885. *Time and place of Meeting.*

Oct. 15, 16.—Western, at Independence, Mo.
C. M. Crandall, Sec., Independence. Mo.

Oct. 15.—Progressive, at Macomb, Ills.
J. G. Norton, Sec., Macomb, Ills.

Oct. 17.—Marshall Co., at Marshalltown, Iowa.
J. W. Sanders, Sec., LeGrand, Iowa.

Oct. 21.—Md., Va. & W. Va., at Hagerstown, Md.
D. A. Pike, Pres., Smithsburg, Md.

Oct. 22, 23.—Northern Michigan, at Sheridan, Mich.
F. A. Palmer, Sec., McBride, Mich.

Oct. 28, 29.—Central Illinois, at Jacksonville, Ills.

Nov, 5, 6.—N. J. & Eastern, at Trenton, N. J.
Wm. B. Treadwell, Sec., 16 Thomas St., N. Y.

Nov. 12.—Central Michigan, at Lansing, Mich.
E. N. Wood, Sec., N. Lansing, Mich.

Dec. 8—10.—Michigan State, at Detroit, Mich.
H. D. Cutting, Sec., Clinton, Mich.

Dec. 8—10.—North American, at Detroit, Mich.
W. Z. Hutchinson, Sec., Rogersville, Mich.

Dec. 8-10.—Northwestern, at Detroit, Mich.
W. Z. Hutchinson, Sec., Rogersville, Mich.

☞ In order to have this table complete, Secretaries are requested to forward full particulars of time and place of future meetings.—Ed.

SELECTIONS FROM
OUR LETTER BOX

Pleasant Fall Season.—J. T. Connley, Napoleon,♁ Ky., on Oct. 2, 1884, says:

I am glad to be able to say that bees are doing splendidly at present on goldenrod, which will be sufficient to insure a fair prospect for safe wintering. The fall season here is unusually warm and genial.

Hiving Swarms on Drone Comb.—D. W. F. propounds the following question:

Suppose a swarm, as it comes from the parent colony, is hived upon a set of combs containing drone comb exclusively, what would be the results? Please answer this in the JOURNAL.

[Some of the combs would, sooner or later, undoubtedly be changed to worker-cells. The queen would, we think, deposit fecundated eggs in drone-cells, and worker-brood would develop. The results would vary; locality and season having much to do with it.—EDITOR.]

Rearing Young Bees for Winter.—J. W. Sanders, Le Grand,⊙ Iowa, on Oct. 1, 1885, writes:

To-day it is warm, and the bees are as lively as in June. The most of August and the first week of September was cool and wet, so that our bees worked but little; but for the last three weeks or more they have been making up lost time, by carrying in a quantity of winter stores, and rearing a large amount of young brood to inherit the old home, as their ancestors pass away with old age. This, I think, is the first great secret to successful wintering, viz.: plenty of young brood late in the season. We have had no frost yet to injure anything; this will be a great help to our success for next season. So many colonies were weak through this region last spring, and by the time they were strong enough to take in the honey crop, it was about gone, so our yield has been light. Still, in some places, where the bees worked for honey and prevented increase, a good yield per colony was obtained.

Poor Honey Season.—16—J. M. Valentine, (165), Carlinville,⊙ Ills., on Oct. 2, 1885, says:

This has been a very poor honey season in this locality. There were plenty of flowers, but only a little honey. My crop is 3,000 pounds of extracted and 1,500 pounds of comb honey in sections, with probably 1,000 pounds of fall honey to extract yet. My bees are in good condition for winter.

Secretion of Wax.—B. F. W. writes thus:

In query No. 95 the matter of wax being secreted only when it is needed seems to be settled by the answers given. Now, how do bees control this secretion? Prof. Cook says that "the strength it (honey) gives goes to wax only when wax is needed." Is it honey or strength that makes wax?

[What causes the stone to fall? The attraction of gravitation. What is gavitation? A law. Why does the male pigeon secrete a peculiar food just in time to feed the young? We can only say environment, that mighty molding power during all the long past, also influences the bee. The need of comb brings wax. Fill a hive with combs and we look in vain for wax; take all away, and even the old bees will show us their pockets full of these wax scales.—A. J. COOK.]

Bees and Grapes, etc.—Benjamin Harding, of Kent, ⊸ Ohio, on Oct. 5. 1885, writes:

I notice on page 611 that another man wants pay for damages done by bees puncturing his grapes. I have 32 colonies in two rows, and about midway between the rows of hives is a grape arbor. The vines are hanging full of grapes, but not one of them has been injured. I do not think that a bee can cut through the skin of a grape, and will not touch anything of that kind unless something else first breaks the skin. At the Portage County Fair, recently held at Ravenna, O., Mr. J. C. Converse, of that place, exhibited two fine colonies of bees in observatory hives, also a half dozen beautiful Italian queens, hives and fixtures, a nice lot of comb honey, and 50 pounds of extracted honey. Mr. Converse secured some $20 in premiums on his various exhibits.

◆

☞ We want one number each of the BEE JOURNAL of August, 1866—February, 1867.

Honey and Beeswax Market.

Office of the AMERICAN BEE JOURNAL,
Monday, 10 a. m., Oct. 12, 1885.

The following are the latest quotations for honey and beeswax received up to this hour:

CHICAGO.

HONEY.—White comb honey is in good demand at 15 cents per lb., when put up in the best shape. Receipts are light. Dark comb honey is in light demand. Extracted honey goes slowly at 5@8 cts.

BEESWAX.—23@25c.

R. A. BURNETT, 161 South Water St.

BOSTON.

HONEY.—We have received quite a large stock of honey, mostly from Vermont, and the quality is very fine. We are doing the best we can to keep the price up where bee-keepers can get something for their honey. One of the largest producers of honey sold his entire crop at a very low price, and honey is being sold here so that it will leave bee-keepers nothing. We still hold our prices at 16@18 cts. for 1-lb sections, and 14@16c. for 2-lbs. Extracted is 6@8c. per lb.

BEESWAX.—30 cts. per lb.

BLAKE & RIPLEY, 57 Chatham Street.

NEW YORK.

HONEY.—There is not much change in the market. The new crop is coming in quite freely, and is selling readily at the following prices: Fancy white clover, in 1-lb. sections, 14@15 cents; the same in 2-lb. sections, 12@13c.; fair to good, in 1 and 2 lb. sections, 10@11c.; fancy buckwheat, in 1-lb. sections, 11@12c.; the same in 2-lb. sections, 9@10c. Extracted, white clover, 6@7c.; buckwheat, 5@6c.

BEESWAX—Prime yellow, 25@28c.

MCCAUL & HILDRETH BROS., 34 Hudson St.

CINCINNATI.

HONEY.—No change has taken place in the general feature of the market. Demand is slow for extracted honey with abundance on the market. Extracted honey brings 4@8c on arrival, and choice comb honey 15@16c in a jobbing way.

BEESWAX—Is in fair demand, and arrivals are good. We pay 20@24c for good yellow.

P. S. The following explanation in regard to markets seems to be in order to post some bee-keepers and save them from disappointments. When quoting prices "on arrival," I mean to say that honey will bring *about* the price quoted, or that a figure within the range given, will appear reasonable or acceptable to a purchaser. I quote as nearly as possible the price at which I am buying and selling. I do *not* mean to say that purchasers are waiting for the arrival of honey and are anxious to buy at those prices quoted, nor that I am willing to pay those prices on arrival for all the honey that may be shipped here. This latter would require a larger capital than I and two more of the largest dealers in America possess. It is unpleasant for us to be over-run with honey for which I will not pay on arrival, unless agreement has been made previous to shipment.

C. F. MUTH, Freeman & Central Ave.

SAN FRANCISCO.

HONEY.—Arrivals are quite light, with a probability of so continuing through the balance of the season. There is some inquiry for best qualities, with a firm market for the same. Quotations are as follows: White to extra white comb, 9@11c.; dark to good, 5@8c. Extracted, white liquid, 5@5½ cts.; light amber colored, 4½@5c.; amber and candied, 4¼c.

BEESWAX.—Quotable at 23@25c., wholesale.

O. B. SMITH & CO., 423 Front Street.

CLEVELAND.

HONEY.—The new crop is beginning to arrive and is selling at 14@15 cts. per lb. for choice 1-lb. sections. Old honey is very dull—none selling although freely offered at 10@12 cts. Extracted, as usual is not in demand in our market.

BEESWAX.—20@22 cts. per lb.

A. C. KENDEL, 115 Ontario Street.

KANSAS CITY.

HONEY.—We now report a very firm market with some advance in prices, though the trade take hold very slowly as yet, and complain terribly when the advance is quoted to them. We are now holding for 16@17c. for fancy white honey in 1-lb. sections, 15@16c. for 2 lbs., and 12@13c. for Calif. Fancy 1-lb. sections, if marketed soon, will bring a good price. Extracted is a little firmer at about the same prices, viz: Miss., La. and Texas, 4@6c., and white clover and Calif., 7@8c.

BEESWAX.—Unchanged, 20@25c., according to quality.

CLEMONS, CLOON & CO., cor. [illegible]th & Walnut.

WEEKLY EDITION
OF THE
AMERICAN
ESTABLISHED IN 1861
OLDEST BEE PAPER IN AMERICA
BEE JOURNAL
PUBLISHED BY
THOMAS G. NEWMAN & SON,
PROPRIETORS,
923 & 925 WEST MADISON ST., CHICAGO, ILL.
Weekly, $2 a year ; Monthly, 50 cents.

ALFRED H. NEWMAN,
BUSINESS MANAGER.

Special Notices.

SPECIAL NOTICE.—On January 1,1886, the price of the Weekly BEE JOURNAL will be reduced to *One Dollar a Year*. This we have contemplated for some years, and only awaited the proper time to warrant us in issuing the Weekly BEE JOURNAL at the very low price of *one dollar* a year. That time has now come. We shall continue to improve the BEE JOURNAL, and it will maintain its proud position as the leading bee-paper of the World!

New subscribers will be supplied with the Weekly from now until the end of the year 1886, for **$1.25**.

Those who have already subscribed for any portion of *next year* will have the time beyond January 1st doubled. These changes in the mail-list type are already made.

◆

For $1.25 we will send the Weekly BEE JOURNAL to *new subscribers* from now until the end of 1885—fifteen months. Now is the time to subscribe. The sooner it is done the more they will get for the money.

◆

To Correspondents. — It would save us much trouble, if all would be particular to give their P. O. address and name, when writing to this office. We have several letters (some inclosing money) that have no name; many others having no Post-Office, County or State. Also, if you live near one post-office and get your mail at another, be sure to give the address we have on our list.

◆

Bees and Poultry.—But few out-door pursuits go so well together as bees and poultry. Give the poultry the necessary attention in the morning and evening, and give the bees such of the time between as becomes necessary. We have made arrangements by which we can supply the American Poultry Journal (price $1.25) and the Weekly BEE JOURNAL both for **$1,75** a year. This is a rare opportunity to get two standard papers for less than the price of one. For a free sample send to the Poultry Journal.

◆

Any person not a subscriber, receiving a copy of this paper, will please consider it an invitation to become a subscriber to it.

"Don't Stop"—that is what many write to us about their papers, when their time is nearly out. One subscriber says: "This has been a year of disaster, and it is not convenient for me to send you the money now to renew my subscription. It runs out with this month; *but don't stop sending it*. I will get the money to you within three months." Such letters are coming every day, and so for the present we have concluded not to stop any papers until requested to do so.

◆

☞ To create Honey Markets in every village, town and city, wide-awake honey producers should get the Leaflets "Why Eat Honey" (only 50 cents per 100), or else the pamphlets on "Honey as Food and Medicine," and scatter them plentifully, and the result will be a DEMAND for all of their crops at remunerative prices. "Honey as Food and Medicine" are sold at the following prices:

Single copy, 5 cts.; per doz., **40** cts.; per hundred, **$2.50.** Five hundred will be sent postpaid for **$10.00;** or **1,000** for **$15,00.** On orders of **100** or more, we will print, if desired, on the cover-page, "Presented by," etc. (giving the name and address of the bee-keeper who scatters them).

To give away a copy of "Honey as Food and Medicine" to every one who buys a package of honey, will sell almost any quantity of it.

◆

Preserve your papers for reference. If you have no **BINDER** we will mail you one for 75 cents, or you can have one FREE if you will send us 3 new yearly subscriptions for the BEE JOURNAL.

◆

☞ Our rates for two or more copies of the book, "Bees and Honey," may be found on the Book List on the second page of this paper. Also wholesale rates on all books where they are purchased "to sell again."

◆

☞ **Sample Copies** of the BEE JOURNAL will be sent FREE upon application. Any one intending to get up a club can have sample copies sent to the persons they desire to interview by sending the names to this office, or we will send them all to the agent.

◆

The Central Illinois Convention will be held at Jacksonville, Ills., on Wednesday and Thursday, Oct. 28 and 29, 1885.
CHAS. DADANT.

Advertisements.

HONEY

WE are now in the market, and will be during the entire season, for all honey offered us, in any quantity, shape, or condition—just so it is pure. We will sell on commission, charging 5 per cent.; or, if a sample is sent us, we will make the best cash offer the general market will afford. We will handle beeswax the same way, and can furnish bee-men in quantities, crude or refined, at lowest market prices. Mr. Jerome Twichell, our junior member in this department, has full charge, which insures prompt and careful attention in all its details.

Sample of comb honey must be a full case, representing a fair average of the lot. On such sample we will make prompt returns, whether we buy or not.

CLEMONS, CLOON & CO.,
36A17t KANSAS CITY, MO.

The Western World
GUIDE and HAND-BOOK
OF USEFUL INFORMATION.

For HOME SEEKERS or Tourists, Capitalists or Laborers. A vast amount of information not to be found elsewhere at any price.

A cloth-bound book, 4x7 inches, 288 pages
Price, 50 Cents.

The following is only a part of the Contents:

Colored Maps of all the States and Territories, including Alaska and District of Columbia.

Diagrams showing area, population, products, Government, State, School and Indian Lands of the several States.

Histories of each of the States from the Earliest Times.—Descriptive of their Topography, Soil, Climate, Rivers Mountains, Natural Wonders, Population, Area, Islands, Lakes, Mines, Products, Manufactures, Industries, Cities, School Systems, Collection and Exemption Laws, Date of Holding Elections, Number of Representatives, Senators, Congressmen, and Presidential Electors, Number of Union and Confederate Soldiers in the Field, Price of Land Cleared and in Forest, Extent of Forest, Number of Different Callings, Rate of Interest, Usury Laws, PEDDLER OR DRUMMERS' LICENSE LAWS, DIVORCE LAWS, MINING LAWS, DESCRIPTION OF PUBLIC LANDS, LIST OF LANDS SUBJECT TO THE FORMS OF ENTRY, List of Land-Offices, Opportunities for Homes or Enterprise, Rainfall, Health, Ports of Entry, Population (male, female and foreign) Number of Indians, Mineral Resources, Nicknames of States and for whom or what they are named, Miles of Railroad and Canals, Tidal Frontage, STATE LAND LAWS, Religious Denominations and their Numbers, Number of Counties and Names.

Government Land Laws giving complete law on the subject of PRE-EMPTION HOMESTEAD, TIMBER CULTURE, SOLDIERS' HOMESTEAD, SWAMP LANDS, LAND WARRANTS, SCRIP, INDIAN TRUST LANDS, DESERT LANDS, COAL LANDS, TIMBER LANDS, MINERAL LANDS, AGRICULTURAL COLLEGE LANDS, ETC.

How to Acquire Lands of any kind belonging to the Government by any forms of entry, who may acquire them, and the different laws applicable to the different sections.

Postal, Pension and Patent Laws of the United States.

Coats-of-Arms of the States and Views of Celebrated Places, and of life in different regions.

Rules for measuring Lumber, Logs, Grain, Liquids, Tables of Weights and Measures of all kinds, Interest Rules and Tables, Lumber Tables.

Systems of Land Measures in various parts of the United State

Contains also a Million useful facts.

The Weekly Bee Journal, for one year, and the Guide, postpaid, for $1.30.

THOS. G. NEWMAN & SON,
923 & 925 West Madison St., CHICAGO, ILL.

SALARY and expenses paid agents to sell goods to dealers $30 to $50 a month and expenses to distribute circulars only No capital required. Salary paid monthly. Expenses in advance. Sample package of our goods and full particulars Free. Send 15 Cents for postage, packing, etc. No postals. We mean what we say. Monarch Novelty Co., 4 Arcade Chambers, Cincinnati, O.

WIN more money than at anything else by taking an agency for the best selling book out. Beginners succeed grandly. None fail. Terms free. HALLETT BOOK CO.
51A1y Portland, Maine.

Dadant's Foundation Factory, wholesale and retail. See Advertisement in another column.

Our Club List. ALL the best publications devoted to bee culture, at reduced rates. Send for Prospectus.
41Atf H. ALLEY, Wenham, Mass.

BEESWAX.

We pay **20c.** per lb., delivered here, for yellow Beeswax. To avoid mistakes, the shipper's name should always be on each package.

THOS. G. NEWMAN & SON,
923 & 925 West Madison Street, CHICAGO, ILL.

THE INDEPENDENT.

The Largest, the Ablest, and the Best Religious and Literary Weekly.

It publishes each week from 25 to 33 per cent. more reading matter than any of its contemporaries. With the exception of its column of "Selections," every line in every issue is new, original matter, written expressly for it. It pays more each week for literary matter than any three of its contemporaries put together. It has the largest and best corps of contributors of any periodical in the world. It is undenominational in religion, and unsurpassed in literary ability. Its reviews of books are unequaled in journalism. Its editorials are fearless. Its departments of Science and Biblical Research give valuable information unobtainable elsewhere. Its Market Reports and Commercial Matters are eagerly sought for by those wanting correct information upon those subjects. Its department for "Old and Young" is filled with articles in prose and poetry. Its Agricultural department is contributed by able and practical agriculturists.

There are twenty-two distinct departments, edited by twenty-two specialists, which include Biblical Research, Sanitary, Legal, Fine Arts, Music, Science, Pebbles, Personalities, Ministerial Register, Hymn Notes, School and College Literature, Religious Intelligence, Missions, Sunday School News of the Week, Finance, Commerce, Insurance, Stories, Puzzles, Selections and Agriculture.—**32 Pages in all.**

THE INDEPENDENT is a family newspaper of the first class, and is recognized as one of the great educators of the land. Every one who wishes to be well-informed upon a great variety of subjects should subscribe for it.

THE INDEPENDENT

AND THE

Weekly AMERICAN BEE JOURNAL

Will both be sent, one year each, to any person not a subscriber to THE INDEPENDENT, for $3.30. The regular price of both is $4. Make remittances to THE INDEPENDENT, P. O. Box 2787, New York.

The *Pall Mall Gazette* says: THE INDEPENDENT "is one of the ablest weeklies in existence."

Terms of Subscription.

One Subscription, one year, $3.00. For 6 months, $1.50; for 3 months, 75 cents. One Subscription, two years, $5.00. One Subscription, five years, $10.00. Any number over five at the same rate, invariably with one remittance.

"TRIAL TRIP:" In order that one may read a few consecutive numbers of THE INDEPENDENT, and thus learn its value, we offer a month's subscription, as a "Trial Trip," for 30 cents, which can be remitted by postage stamps. Payment of $2.70 in addition will secure the balance of the year's subscription.

Send postal for free specimen copy and judge for yourself. Address,

THE INDEPENDENT,
251 Broadway, NEW YORK.

Wooden Pails for Honey!

WE can furnish regular Wooden Water-Pails—well painted on the outside, and with 3 iron hoops and a tight-fitting wood cover, at **$2.25** per dozen. They will hold **25** lbs. of honey, and when empty, can be utilized for use as an ordinary household pail.

THOS. G. NEWMAN & SON,
923 & 925 West Madison Street, CHICAGO, ILL.

QUEENS

AT REDUCED PRICES.

OWING to the scarcity of money, I will SELL **Warranted Queens at $8.00 per dozen. Two dozen for $15.00.**

30Abtf **J. T. WILSON,** Nicholasville, Ky.

A PRIZE.

Send six cents for postage, and receive free, a costly box of goods which will help you to more money right away than anything else in this world. All, of either sex, succeed from first hour. The broad road to fortune opens before the workers, absolutely sure. At once address TRUE & CO., Augusta, Maine.

51A1y

Dadant's Foundation Factory, wholesale and retail. See Advertisement in another column.

THE INVERTIBLE HIVE!

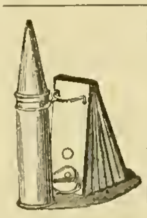
INVERTIBLE FRAMES,
Invertible Surplus Honey Cases,
Entrance Feeders, Top and Bottom Feeders,
Hive-Lifting Device, Honey Extractors,
Wax Extractors, Comb Foundation, etc.

☞ My new Illustrated Catalogue is now ready, and will be mailed to all who may apply for it. Address,

J. M. SHUCK,

DES MOINES, IOWA.

10A1y



Bee-keepers' Supplies,

Standard Langstroth,

Quinby Standing-Frame,

And all other kinds of **Hives,**
MADE TO ORDER,

Quinby Smoker a specialty.

I shall supply anything you need in the Apiary. Send for Illustrated Price List.

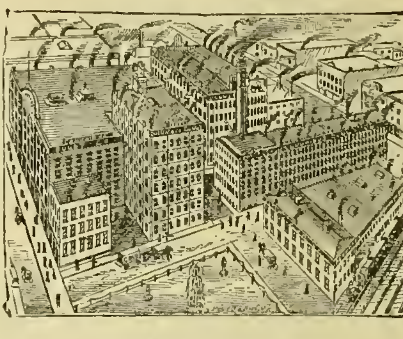
W. E. CLARK, successor to L. C. Root,
7A1y ORISKANY, Oneida County, N. Y.

$200,000

in presents given away. Send us 5 cents postage, and by mail you will get *free* a package of goods of large value, that will start you in work that will at once bring you in money faster than anything else in America. All about the $200,000 in presents with each box. Agents wanted everywhere, of either sex, of all ages, for all the time, or spare time only, to work for us at their own homes. Fortunes for all workers absolutely assured. Don't delay. H. HALLETT & Co.
51A1y Portland, Maine.

COLUMBUS BUGGY CO.,

COLUMBUS, OHIO.



(View of our Factory.)

MANUFACTURERS OF

STRICTLY

FIRST-CLASS VEHICLES

At New Orleans World's Exposition was awarded 1st. Premium for finest display of Vehicles, against 64 Competitors.

The justly **celebrated Brewster** cross-spring **side-bar** being our great specialty, we build **only one grade** of work, and that of **the best in quality and style.** We do not make the lowest priced vehicles, but claim that ours are the **cheapest in the world** when **quality** is considered. We use the **finest material** obtainable, employ only **expert** and **competent mechanics.** To insure the best and most uniform results, we now **manufacture our own wheels** from **finest timber** (sawed by our own mills) that can be obtained from the hills of Southern Ohio—famous as the **second growth hickory** district.

The reputation of the **Columbus Buggy Company** is unexcelled. The work is known and sold throughout the **entire** United States and Territories. Well introduced in England, Germany, Australia and South America.

Send for Catalogue and prices, and the name of the nearest dealer will be sent.

NEW ONE-POUND HONEY PAIL.

THIS **new size** of our Tapering Honey Pails is of uniform design with the other sizes, having the top edge turned over, and has a bail or handle,—making it very convenient to carry. It is well-made and, when filled with honey, makes a novel and attractive small package, that can be sold for 20 cents or less. Many consumers will buy it in order to give the children a handsome toy pail. **PRICE, 75 cents per dozen, or $5.00 per 100.**

THOS. G. NEWMAN & SON,
923 & 925 West Madison Street, CHICAGO, ILL.

60 New Style, Embossed Hidden Name and Chromo Visiting Cards, no 2 alike, name on, 10c., 13 packs $1; warranted best sold. Sample book, **4c.** L. JONES & CO., Nassau, N. Y.
11A1y

HELP

for working people. Send 10 cents postage, and we will mail you *free*, a royal, valuable sample box of goods that will put you in the way of making more money in a few days than you ever thought possible at any business. Capital not required. You can live at home and work in spare time only, or all the time. All of both sexes, of all ages, grandly successful. 50 cents to $5 easily earned every evening. That all who want work may test the business, we make this unparalleled offer: To all who are not well satisfied we will send $1 to pay for the trouble of writing us. Full particulars, directions, etc., sent free. Immense pay absolutely sure for all who start at once Don't delay. Address STINSON & CO.
51A1y Portland, Maine

WEEKLY EDITION
OF THE
AMERICAN
ESTABLISHED IN 1861
OLDEST BEE PAPER IN AMERICA
BEE JOURNAL

THOMAS G. NEWMAN,
EDITOR.

Vol. XXI. Oct. 21, 1885. No. 42.

APICULTURAL NEWS ITEMS.

EDITORIAL AND SELECTED.

If Your Work is made more easy
By a friendly, helping hand,
Say so ! Speak out brave and truly,
Cheering words to all our band.
Why should good words ne'er be said
Of a friend—*till he is dead ?*
Give him *now* your words of cheer,
With them check the falling tear !

Persons who know most condemn the least; but those who know but little condemn much.

Bee-Men at Fairs attract crowds by handling bees, and are looked upon with amazement by those who witness the manipulations.

While 100 Years of bee-keeping will teach some persons *nothing*—as many days will give others a knowledge of considerable value.

Abuse and Vituperation is not argument, and only shows the weakness of the position taken by those who use such a course of procedure.

Twelve Hundred Fairs are to be held this year in the United States and Territories, but in 397 counties no Fairs will be held. In some localities there seems to be a decline in the interest in such exhibitions.

Agents can sell the Guide and Hand-Book like "hot-cakes." Send us an order for five copies (with $2.50) and we will send you the Weekly BEE JOURNAL *free* for a year. This is a *rare* opportunity to get the Weekly BEE JOURNAL without cost ! !

Instruction in bee-books and bee-periodicals is prepared to aid those who need information. While many use the suggestions offered, some *misuse* them, and think they "know it all." But few, indeed, are so skillful as to need no instruction or counsel.

Mr. W. H. Balch desires a sentence in the second paragraph of his article on page 634, corrected to read thus: "Not having feeders, I raised the front ends of the hives and poured the feed in at the entrances, the bottom-boards being tight enough to contain what feed was necessary," etc. He omitted a few words when writing it.

Considerable has been written against bee-keeping because, forsooth, some persons have been stung to death. Here is a case where two persons died from the effect of a calf's bite :

> Mrs. John Young, of Winfield, W. Va., a few days ago, while attempting to separate a cow and calf, was slightly bitten on the hand by the calf. Almost immediately she was taken ill, and died in a few hours. An infant which she had nursed during the interval, was also violently attacked, and died in convulsions.

Here is another case where a man was killed by a bull :

> Thomas Boswell, a well-known citizen of Dinwiddie County, Va., went out to feed his stock on Oct. 11, when he was attacked by a vicious bull and instantly killed, the body presenting a horrible appearance.

Would it not be just as reasonable to claim that stock should not be bred, and that the milk, cream, butter and cheese business should be interdicted because of the above accidents—as to claim that bee-keeping should be declared a nuisance because some one had been stung, and died from the effects of the bee-poison on their already diseased blood.

A New Bee-Book, in German, is on our desk. It is entitled the "*Geschichte der Bienenzucht*" (History of Bee-Culture), by J. G. Beszler, of Ludwigsburg, Germany. It is an excellent work consisting of nearly 300 pages, giving an authentic and elaborate account of the development of the art of bee-culture from the earliest times to the present, both in the Old World and in the New. It contains a photographic group of 84 of the most eminent European apiarists, but mainly those from Germany. A very interesting feature of the book is a chapter entitled "The Bees in Poetry," in which is found quotations relating to bees, selected from celebrated European poets. Another of its noticeable features is the biographical sketches of the most noted bee-keepers of the Eastern Continent, including the Rev. L. L. Langstroth, the Father of Modern American Apiculture.

The Sheep-Bees Lawsuit is called for Tuesday, Oct. 27, 1885. The opposition are marshalling their forces to give Mr. Freeborn as hard a fight as they can. The National Bee-Keepers' Union, having the aid of some 5 or 6 good lawyers (three of them being practical bee-keepers), will make it *lively* for Mr. Powers, the prosecutor. Several experts (prominent men who keep both sheep and bees) are to be called as witnesses, and Prof. Henry, of the College at Madison, Wis., as well as other scientific men, will aid the defense. Mr. W. Z. Hutchinson (who is a short-hand reporter) is engaged to give a full report of the proceedings to the public. We are all ready, Mr. Powers—now, call your case, and do your worst !

The Guide and Hand-Book, is a book of ready reference and an encyclopædia of everything desirable to know. As a guide to the home-seeker, it is invaluable. Its contents are partially given on page 670, and will convince any one of its value. We do not think any of our readers can afford to do without it. As a book of ready reference we find it of great value in our library. We will send the Weekly BEE JOURNAL for a year and the Guide for $1.30.

Honey in the Walls of Houses has been found in two instances lately in England, says the London *Standard :*

> For the last 16 or 18 years a colony of bees has taken possession of a niche between the walls of the Hautboy and Fiddle public house at Ockham, near Ripley. The outer walls of the building are about 3 feet in thickness, and the bees made choice of their storehouse at the top of the building, which is three stories high.
>
> More than 2 feet square of the wall had to be removed, when a large mass of comb about 2 feet in thickness, filled with honey, was exposed. The bees were fumigated, after which large pieces of honey were cut out, until dish after dish was filled with a total quantity of about 120 pounds. The bricks have not been put into the wall again, but a glass door has been inserted, so that any one may have an opportunity of seeing them.
>
> Another lot of honey has been secured at Winter's Hall, Bromley, the seat of Mr. George Barrett. Some men were sent to take some bees which had got between the ceiling of the coach-house and the granary. They succeeded in taking 300 pounds of honey. The bees had been engaged in their novel hiding-place several years.

Friendly Criticism is valuable, but in order to criticise intelligently, one should have considerable knowledge and experience, and have a better plan or train of thought on the subject than the one to be criticised—else all such discussion is in vain.

In Scotland it is the custom to move the hives of bees to the Heather country in summer, but this year it gave but poor results. A correspondent in the London *Journal of Horticulture* gives the following as his opinion concerning this year's crop in Scotland :

> Owing to the continued low temperature, the honey harvest from the Heather, this year, will not be great. Favored localities may have yielded a fair quantity, but in many it is *nil*. In the south of Scotland I hear of 50 pounds being stored, but in the north it is a failure. From statistics I should say the average honey-gathering throughout Scotland will not exceed 15 pounds per colony.

The Hum in the Hives is thus explained by the *Scientific American :*

> During August, certainly the bee-keeper expects to hear the "mighty hum" of the bees if he be near a hive. If no sound proceeds from a hive in July and August, it shows an unusual state of the weather. Last winter, when the mercury was 10° below zero, a thermometer was thrust into a cluster of bees. On the inside of the cluster the temperature was 65°, and on the outsde 45° Fahr. If the heat generated by the bees, when the mercury is 10 below, is 65°, what must it be when the outside temperature is 90° ? It is intense, but the bees have a way of reducing it, at least a way of creating a draught and keeping the atmosphere pure.
>
> A number of bees—a thousand or more, perhaps—act as ventilators or fanners. They stand, heads down, with bodies at an angle of 45°, and keep the wings in motion. Throughout the hive, on all the combs, up and down, the ventilators keep their fans going. On the alighting-board, with bodies pointing from the hive, they fan also. At the entrance of one hive, on a day in August, 280 bees, by actual count, were fanning. The honey-gatherers dropped down upon them, tumbled over them, but they kept to their work. Some writers have spoken of the "hum of the hive," as though the hum was the result of the work going on within. 'Twas the hum of the fanners. But in August this year there were nights when the hives were silent. Not an echo of a hum came from any, showing that the air was cold enough to dispense with the ventilators.

Dr. B. Pitcher, Peoria, Ills., has sent us a copy of his treatise on the Horse's Foot. It is a practical treatise on the foot of the horse, its diseases and how to cure them.

QUERIES

WITH

REPLIES by Prominent Apiarists.

Brood and Young Bees Dying.

Query, No. 135.—What is the cause of the brood dying, some before it is capped, and some afterward? It turns black and dries up, and the bees pull it out and drag it out of the hive. Young bees that have matured, crawl out of the hive and die outside. The dead brood smells much like foul brood, but it is not that. This is the case with strong colonies as well as weak ones, and those that have a great plenty of honey, too. This state of affairs has existed for only about ten days. I have many, very many colonies affected.—Subscriber, Sept. 25, 1885.

If the trouble is not foul brood it is something closely allied to it, and is probably contagious. Phenol might be fed to these colonies to advantage. I have never seen anything like it.—G. L. TINKER.

I have never seen a case like this. Is there any possibility that the bees have been poisoned?—W. Z. HUTCHINSON.

You describe the effects of what is called "chilled brood" to a dot. If this is not the trouble, your statements give no clue to what it is. In 1884 it was believed by many apiarists that the iron-weed bloom, in the Middle States, killed a large number of bees.—G. W. DEMAREE.

Many such cases are reported to me this year. Can it be possible that these cold days, which come even in August, found more brood than the bees could protect, and so laid their icy hands upon it? Once dead, putrefaction would begin, and then it always smells bad.—A. J. COOK.

I have had no experience like it. It looks just a little as if cold days had contracted the cluster so the brood was left unprotected.—C. C. MILLER.

Recent investigations show, or prove, that there are several phases of the disease "foul brood," and this is probably one of them. I should suppose in this case that the disease was hereditary, and should at once put the colony into a new hive, on fresh comb, and give them a new queen. This question, however, like many others, can only be answered theoretically.—J. E. POND, JR.

I have never seen anything like it. Perhaps it is what has been termed "dry foul brood." From what you say, I suppose it cannot be chilled or smothered brood.—JAMES HEDDON.

Planting for Honey.

Query, No. 136.—I wish to sow or plant something that will bloom about the time white clover fails. What is likely to pay best for honey alone, or combined with its crop of fruit or seeds?—Mercer, Co., Ky.

Try melilot.—C. C. MILLER.

Alsike cut so as to delay its bloom. Rocky Mountain bee-plant is a little late. Rape and the mustards are good.—A. J. COOK.

Melilot or sweet clover. It will enrich the land and will grow in the poorest soil. It is the very best honey-plant.—DADANT & SON.

The very best thing I know of is the pleurisy-root, or butterfly-weed. Melilot clover is good, if it will bloom soon enough, and is planted on strong soil.—JAMES HEDDON.

Sweet clover is the best of any honey-plant coming after white clover and before buckwheat.—G. M. DOOLITTLE.

For honey alone, I think I should try sweet clover. Alsike clover and buckwheat are the only plants that I have ever profitably raised for honey.—W. Z. HUTCHINSON.

I would advise all bee-keepers to plant basswood. In the list of honey-producing plants and trees it stands first in bountiful yields and in the fine flavor and beautiful quality of the honey produced. Alsike clover and buckwheat pay well as crops, but it will not pay to cultivate any plant for the honey alone when the value of staple crops is considered.—G. L. TINKER.

Why not try a crop of Alsike clover? The evidence so far goes to prove it to be one of the best crops for honey, and certainly there can be no better crop to feed to stock. I do not believe that it will pay to sow or plant any crop for honey alone.—J. E. POND, JR.

My location is practically the same as yours. I partake very much of your state of mind concerning some profitable plant that will bloom just after the white clover fails. But all my efforts to procure such a plant have been a failure. All the clovers, Alsike and the several varieties of red clover and melilot or sweet clover, bloom at the same time that white clover does. If you could so manage Alsike clover as to get a second crop of bloom, it seems to me that it might be utilized in that way. But the Alsike clover is not a success in this climate. It seeds and dies after once blooming.—G. W. DEMAREE.

Rearing Drones.

Query, No. 137.—Early in the spring I thus prepared a colony to build queen-cells: I added frames of hatching brood in colony No. 1, until it was quite strong. I then removed all the frames and the queen, shaking off all the bees in front of the hive, and giving them one frame filled with comb with newly laid eggs, and four frames filled with foundation. Three days afterward I examined them and found they had drawn out all the foundation, except one frame, and a part of this they had cut out and built drone comb in its place, and had it filled with eggs. Where did these eggs come from? Why did they want to rear more drones when they had 1,000 or more?—W. C.

The eggs were probably taken from the comb of eggs given them. It is possible, but not probable, that some of the workers laid the eggs in the drone comb. I cannot say what motive induces the bees to do thus.—W. Z. HUTCHINSON.

Doubtless laying workers deposited the eggs. Queenless bees are prone to build drone comb, and it is hard to satisfy their propensity for drone-rearing.—G. W. DEMAREE.

In these extraordinary cases there are always some things that are overlooked that would explain the matter if known.—DADANT & SON.

I should guess that by some "hook or crook" a fertile worker or drone-laying queen joined the colony at the time you prepared it.—JAMES HEDDON.

In such conditions bees always desire to start more drone brood. Either laying workers or else a queen came to them from some other hive, as they occasionally do. If this latter were the case, they did not start queen-cells. It is not common for laying workers to commence so promptly.—A. J. COOK.

The fact that eggs were found in newly-built drone comb proves them to have been laid by worker bees. This case will explain the many where all worker eggs were given to a colony in a similar manner, when afterwards among the queen-cells would appear many drone-cells, leading some to suppose that the bees had removed the vivifying principle of the eggs when the fact was the bees had eaten the eggs in question and laid others in place of them. In rearing drones, bees go by instinct, not by reason. One hundred drones are enough for any colony where needed, but the bees prefer to rear hundreds.—G. L. TINKER.

It is impossible to tell why drone comb is built. We only know that at times there is a great mania for so doing. Probably the eggs in the drone-cells were inserted by laying workers, unless, as is possible, there were two queens in the hive originally, and only one removed. It is easy to ask questions; but how to answer correctly without a personal examination, is very different.—J. E. POND, JR.

Wind-Breaks for Apiaries.

Query, No. 138.—My bees are located on land sloping to the southeast, with woodland of a few years' growth on the north side. Would there be any more chance for them to get through the winter safely if I should build a board fence along the north side of them, and put some boards on top of it for a temporary shed to break the winds and keep off the storms? Or is it best to let them stand without any protection? They are all in double-walled hives.—Blackstone, Mass.

The extra protection would probably be an advantage.—C. C. MILLER.

I think that it would be an advantage to build such a wind-break, but I would pack the hives just as carefully with dry forest leaves or very dry sawdust.—G. L. TINKER.

The fence would do no harm, and would probably be of some value when the bees begin flying in the spring.—W. Z. HUTCHINSON.

In my location I would dread the accumulated heat in the summer months, on account of a high fence, more that I would fear the winds in winter in the absence of the fence.—G. W. Demaree.

With the growth on the north, I should think it unnecessary. If you have a good cellar you had better use that for the whole or a part of the bees. At least I should do so.—A. J. Cook.

Yes, shelter them on the north by all means; but let them have all the sun you can.—Dadant & Son.

I have seen so many colonies die in the winter with the wind-breaks, and so many live without them, that I consider them as minor aids to success—not worth their cost and little to be depended upon for protection.—James Heddon.

If the hives are located within a short distance (say a few feet) of the woodland, I should leave them as they are; otherwise I should build a tight-board fence about 6 feet high for protection on the north and west sides. I deem the above sufficient protection without the addition of a shed roof, although the roof will do no harm.—J. E. Pond, Jr.

The fence and shed would be a help.—G. M. Doolittle.

Bees Leaving their Hives.

Query, No. 139.—My brother-in-law bought 5 colonies of bees last spring, that were in American hives. He had them transferred into Langstroth hives, newly made and painted in different colors. They staid in them all right, and did well. About the middle of June one of them swarmed, and he hived it in a new hive that was painted green. The swarm staid in it until the next day about noon, when it came out and went off. He hived another swarm in the same hive, and it did likewise; and so did about a half dozen more, some staying until the next day after being put in the hive, and building quite a lot of comb. They were hived in good shape, and had good care. What made so many leave the hive? Did the color of the hive have anything to do with it? Is a swarm more liable to leave when put into a hive where a swarm has left?—J. S. B.

Perhaps something was wrong about the hives. Possibly they did not like any thing green about them.—A. J. Cook.

Possibly heat was the cause. I do not think that color or previous use had anything to do with the case.—C. C. Miller.

I do not think that the color of the hive had any tendency to displease the bees. I have never noticed that a colony was inclined to desert a hive that had previously been deserted.—James Heddon.

Dark paint draws the heat from the rays of the sun, making the inside of the hive too warm for the bees unless the hive is shaded. I should say that the bees left on account of the extreme heat inside the hive.—G. M. Doolittle.

I prefer white to any other color for hives, and I paint them all alike. The green paint may have contained arsenic, as much of the green paint does. This may have been the reason the bees would not stay in the hive. A hive standing in the sun should be shaded for three days at least after hiving a swarm in it. Where this precaution is neglected the bees are very apt to swarm out.—G. L. Tinker.

I do not think that the color of the hive had anything to do with the bees leaving, except that dark colored objects absorb more of the heat of the sun's rays than do light colored ones. If something about a hive, or its surroundings, causes one swarm to abscond, I should expect the same conduct from every swarm put into the hive.—W. Z. Hutchinson.

From the data given it is impossible to more than guess at the cause of desertion. I do not think that the color had anything to do with the matter. To the last question I would say *no*, most decidedly.—J. E. Pond, Jr.

The color of the hive had nothing to do with it. I have had bees in hives of nearly all colors, and have seen no difference. Either some smell about the hive was offensive to the bees, or it was a mere accidental occurrence that might never take place again. In the season of 1883 there was a period during the swarming season when a majority of the swarms in this part of Kentucky absconded. It was found that a comb containing pollen given the new swarm would keep them every time. For this reason many thought that a scarcity of pollen was the cause.—G. W. Demaree.

Replacing Queens.

Query, No. 140.—Is it best to change queens that are three years old? I have some that are just as good layers as ever, and they are in my strongest colonies. They are Syrian queens. How long do they live?—F. L.

Unless you have had much experience, you had better let them alone.—C. C. Miller.

I would never destroy such a queen. Such old queens, when good, are often super-excellent for five years.—A. J. Cook.

I have known queens to do good business for five years. However, most of my queens are superseded by the bees when 3 or 4 years old. I let the bees do the changing.—G. M. Doolittle.

I would never change good queens because they are old. The bees will attend to that, and make less mistakes than you are likely to make, no matter how careful and wise you may be.—G. W. Demaree.

I would let the bees do the superseding of all valuable and prolific queens after they are three years old. They may live to be five years old, but usually not more than three.—G. L. Tinker.

No; let the bees do it themselves; or at least do not change them until you see that they are decreasing in their breeding capacity.—Dadant & Son.

I do not know that it is. I cannot advise such a change. Queens live 3, 4 and 5 years.—James Heddon.

In my opinion it is best to let the bees do their own superseding of queens. The length of a queen's life, other things being equal, depends upon the tax that is put upon her laying powers. Perhaps three years is the average with our modern management.—W. Z. Hutchinson.

Queens live to about 3½ years, on the average. I do not think the question of age, however, should be considered in the matter of changing queens, except so far as it may be taken as a sort of rule to judge of when they will be apt to fail. I should not change a queen so long as she was laying up to the average. As a rule, queens are productive up to the end of the second year. I have one now passed her fifth year, that has proved extraordinarily prolific the past season.—J. E. Pond, Jr.

Convention Notices.

☞ The Maryland, Virginia and West Virginia Bee-Keepers' Association will meet in the Court House at Hagerstown, Md., on Oct. 21, 1885, at 10 a. m. D. A. Pike, *Pres.*

☞ The New Jersey and Eastern Bee-Keepers' Association having accepted an invitation to meet with the Mercer County Board of Agriculture, of Trenton, N. J., will hold their semi-annual convention in the Grand Jury Room of the Court House at Trenton, N. J., on Thursday and Friday, Nov. 5 and 6, 1885, at 10 a. m. A full attendance of the members is requested. To all persons interested in our vocation, we extend a cordial welcome. The committee of arrangements have secured hotel accommodations at reduced rates.

Wm. B. Treadwell, *Sec.*

☞ The Central Michigan Bee-Keepers' Association will meet in the Pioneers' Rooms in the State Capitol, at Lansing, Mich., at 9 a. m., on Nov. 12, 1885. All who have bees or are interested in bee-culture, are invited to attend. E. N. Wood, *Sec.*

☞ The next annual meeting of the Northern Michigan Bee-Keeper's Association will be held in the Council Rooms at Sheridan, Mich., on Oct. 22 and 23, 1885. A cordial invitation is extended to all.

F. A. Palmer, *Sec.*

The Central Illinois Convention will be held at Jacksonville, Ills., on Wednesday and Thursday, Oct. 28 and 29, 1885.

Chas. Dadant.

Honey as Food and Medicine.

☞ To create Honey Markets in every village, town and city, wide-awake honey producers should get the Leaflets "Why Eat Honey" (only 50 cents per 100), or else the pamphlets on "Honey as Food and Medicine," and scatter them plentifully, and the result will be a DEMAND for all of their crops at remunerative prices. "Honey as Food and Medicine" are sold at the following prices:

Single copy, 5 cts.; per doz., 40 cts.; per hundred, **$2.50.** Five hundred will be sent postpaid for **$10.00;** or **1,000** for **$15.00.** On orders of **100** or more, we will print, if desired, on the cover-page, "Presented by," etc. (giving the name and address of the bee-keeper who scatters them).

To give away a copy of "Honey as Food and Medicine" to every one who buys a package of honey, will sell almost any quantity of it.

CORRESPONDENCE.

Explanatory.—The figures BEFORE the names indicate the number of years that the person has kept bees. Those AFTER, show the number of colonies the writer had in the previous spring and fall, or fall and spring, as the time of the year may require.

This mark ⊙ indicates that the apiarist is located near the centre of the State named: ♂ north of the centre ; ♀ south ; O+ east ; +O west; and this ♂ northeast; `O northwest; O` southeast; and ♀ southwest of the centre of the State mentioned.

For the American Bee Journal.

Small Hives vs. Large Hives.

CHAS. DADANT.

The arguments of Mr. Hutchinson, in favor of small hives, on page 631, can be thus condensed :

1. Success depends on securing the largest possible quantity of honey with the least possible expenditure of capital and labor. 2. Having bees at the right time is one grand secret of success, and after having gotten the bees, it is better to compel them to store the honey in the sections by contracting the brood-chamber. 3. It is of no importance whether honey is stored in 10 or 100 hives.

Let me remark first that this last proposition is contradictory to the first, for it is more expensive to provide bees with 100 than with 10 hives.

I do not think that Mr. Hutchinson will deny that in a good season most queens can lay 3,000 eggs per day, on the average. In our 10 and 11 frame Quinby hives, offering to the queens the surface of about 13 Langstroth frames, we have seen, in good seasons, in nearly every hive, nearly all the combs filled with brood ; therefore, a 12-frame Langstroth hive can have 75,000 workers at the beginning of the crop, while an 8-frame hive will have only 50,000 bees ; the laying of the queen in the last hive having been shortened by lack of room. If we reckon these figures on 40 colonies, we find that the 12-frame hives will have 3,000,000 workers, and the 8-frame ones only 2,000,000 ; or, in other terms, it will take 60 8-frame hives to contain as many workers as can be reared in 40 12-frame hives. But 60 small hives will be more expensive than 40 large ones.

Yet that is not all. The queens and bees in the large hives will be satisfied, and will show it by remaining in their hives ; while the queens and bees in the small hives will manifest their dissatisfaction by swarming. Then the owner of the 40 large hives, if he provides them with surplus comb or comb foundation in time, will need only 5 or 6 surplus hives, to house a few occasional swarms ; while the owner of the 60 small hives will have to prepare about 60 other hives to receive his numerous swarms ; for very often colonies in small hives give 100 per cent. of swarms. Which method is the more expensive ? In both, the large and the small hives, the bees will cover the frames in the same ratio, each comb, in both hives, being covered with about 6,500 bees.

Generally, when a swarm issues, it takes out of the parent colony about two-thirds of its bees ; therefore, the swarm from a hive containing 50,000 bees will number about 33,300 bees. The supporters of the so-called contracting method will hive this swarm on five combs. If we divide 33,300 (the number of bees of the swarm) by 5, the number of the combs on which the swarm is hived, we find that every one of these 5 combs will be covered, on the average, by 6,666 bees.

In the parent colony, before swarming, the bees were spread on the average at the ratio of about 6,500 on each comb ; the same bees, in the new hive, are now spread on each comb at the ratio of 6,666, or, in other terms, the contraction method has crowded only 166 bees more on every comb. But as in the new colony there is no brood to replace the daily mortality of the bees, and as the life of a worker bee is very short in the honey season, the very next day the number of bees on every comb of the new colony will be reduced below the ratio on the combs of the colony in the 12-frame hives, which has not swarmed, and every day after the number of bees in the new colony will decrease until it is increased again by the bees that the Heddon method takes from the parent colony 8 days after to prevent after-swarming.

Let us return to the parent colony. After the departing of the swarm it remains with only 16,000 bees spread on 8 combs, or at the ratio of 2,100 bees to the comb, and of course its bees are very far from being crowded ; yet the poor old colony is doomed to be depopulated again 8 days after. Then Messrs. Heddon, Hutchinson, and others will reduce the number of its combs to five ! ! !

But this contraction method is very strange to my mind. These gentlemen had 50,000 bees on 8 combs ; after swarming, these 50,000 bees were distributed, it is true, on 13 combs, reduced 8 days after to 10 combs, *i.e.*, increased from the original 8 combs to 10 ; and they call that the contracting method ! It seems to me that I would have named it the enlarging method.

While all this interfering of the contracting bee-keeper with his bees (at a time when it is more profitable to let them alone, with the sole precaution of furnishing them with comb or room to store their harvest)—while this interfering goes on let us see what happens in the 12 frame hive. The bees are as crowded as those in the contracted hive, and work in the surplus boxes with eagerness. They did not lose a single hour in making preparations to swarm, in swarming, in becoming accustomed to their change of location, etc., and of course their crop is consequently a little larger ; for the loss of a single day, during the honey harvest, may cause a loss at least of 5 or 10 pounds of honey.

"Mr. Dadant," my opponent will say," is a producer of extracted honey, and it is for that reason that he does not agree with us on this method of contracting the brood-chamber." As my bees, in their large hives, are as crowded as the bees of Mr. Hutchinson, in his small hives, were crowded beform swarming, and as his swarms hived on 5 combs are not more crowded, I am unable to see in what particular his small hives and his contraction method can, in any way, compel the bees to store more extracted or comb honey in his hive than in mine. Of course Mr. Hutchinson obtains better result by hiving his swarms on 5 combs ; but it is a mistake to think that it is because he gives them a narrower room than they used to have before swarming ; but because he returns them to about the same conditions, as to the quantity of bees, proportionally to the space occupied before.

In the beginning of this article I have proved that bee-keeping is less expensive with large than with small hives, and in the last part I think I have proved also that there is less expense of labor for the same results, or for better results, in large than in small hives ; since we dispense with the work of hiving so many swarms, of reducing the hives, and of driving out the bees to avoid after-swarms.

Hamilton,+O Ills.

* * *

For the American Bee Journal.

Southern Illinois Convention.

The Southern Illinois Bee-Keepers' Association met in Teague & Harris' Hall, at Duquoin, Ills., on Oct. 1, 1885, and was called to order by Vice-President C. M. Dixon, of Parish, Ills. The President being absent, Mr. Wm. Hutchinson, of Benton, was chosen Chairman *pro tem.* The minutes of the last meeting were read and approved.

The question, "Which is the best strain of bees ?" was then discussed, and the Italians seemed to have the most friends among the members present.

The next topics were "The best method of introducing queens," and "The best method of Italianizing an apiary."

In discussing "The best method of wintering bees," Mr. C. M. Dixon said that they needed plenty of honey, just enough ventilation, and should be kept warm and be looked after frequently.

The best way to handle bees without stinging, and the best way to keep comb honey, were questions that received considerable attention.

The following were chosen as officers for the ensuing year: Wm. Hutchinson, President ; C. M. Dixon, Vice-President ; F. H. Kennedy, Secretary ; and A. C. McElvain, Treasurer.

The convention adjourned to meet in Duquoin, Ills., on the second Thursday in April, 1886.

F. H. KENNEDY, *Sec.*

For the American Bee Journal.

Facts and Figures—The Honey Crop.

GEO. E. HILTON.

The New York *Mail and Express* has the following article which I send for the AMERICAN BEE JOURNAL. There are several good points in the article, and a vote of thanks are due Mr. Henry Segelken for the stand he has taken and the facts stated in reference to the adulteration of honey. I wish it could be given the circulation the "Wiley lie" has had. Here is the article which was also copied into the Philadelphia *Grocer:*

To ascertain the condition of the honey crop this season, a reporter for the *Mail and Express* called on Mr. Henry Segelken, the chief of the honey department of Thurber, Whyland & Co., who said: "An unusually large crop of honey was produced all through the United States last year. California had the largest and finest crop ever gathered in the State. Wisconsin, Illinois, Michigan, Pennsylvania and New York also had very large crops, but the quality was nothing extra. The California honey was sent in very large quantities to London and the European markets. It also was found in New York, Philadelphia and Boston, where it became a formidable rival to the native product. The result was that the market became overstocked, and prices naturally declined. Comb honey sold as low as from 10 to 15 cents per pound, while the finest California extracted honey could have been bought at from 4 to 6 cents per pound. The result was that a large quantity was carried over to this year. In fact, the most of it was disposed of this summer."

"What about this year's product?"

"This season the crop is lighter. My advices from California show that the amount produced is very small. That State will not have any for export. It will have barely enough to supply the home market, and may have to call upon other localities. Michigan, Wisconsin, and Illinois have only a fair crop this season. In New York, Vermont and Pennsylvania, however, there has been a large production, and unlike last year it is of excellent quality. It is evident that the bees have been working among the white clover and linden blossoms, for the honey is mostly of a strictly white color. Hardly any buckwheat honey has been produced this season, as the night frosts have cut off the flow and thus stopped the bees from working on the buckwheat blooms. Louisiana, Florida, Georgia, and Virginia had a good crop. Most of the Southern honey, however, is extracted from the combs and sent to the market in barrels. Fully 75 per cent. of the Southern honey comes to the New York market. In some parts of Florida a very fine honey is produced from the orange blossoms. It has a delicious flavor, and is light in color."

"What is the principal kind of honey sold?"

"Comb honey is to some extent a luxury. Extracted honey is used mainly for manufacturing purposes by bakers, confectioners, druggists and others requiring honey in large quantities. Much has been done in late years to put up comb honey in an attractive shape, and thus create a demand. The bee-keepers of this State have the reputation of putting up their honey in the most salable style. In former years the comb honey sent into the market was packed in clumsy, rough-looking boxes, weighing from 4 to 6 pounds each, just as the combs were taken from the hive. Now it is all put up in 1 or 2 pound sections, neatly cleaned. In most instances these are fitted with glass on both sides of the comb, or packed in handsomely-labeled paper cartoons."

"How do prices range?"

"Prices rule low. Fancy white clover honey is selling at from 12 to 14 cents per pound. Inferior grades range from 10 to 12 cents per pound. Extracted white clover honey, in barrels, realizes from 6 to 8 cents per pound. The Southern honey, being very irregular in quality, sells at from 50 to 55 cents per gallon. New York honey, and that produced in the Atlantic States, appears to be more favorably received this season."

"Is bee-keeping a large industry?"

"The keeping of bees is a much larger industry than many persons have any idea of. Some of the most prominent bee-keepers in New York State have from 500 to 800 colonies, and produce, if the season be favorable, from 20,000 to 30,000 pounds of honey every year."

"Is honey adulterated much?"

"Many persons are of the opinion that comb honey is, or can be adulterated. This is not the case. Such opinion would be perfectly ridiculous, were it not for the wonders of science in this day and generation. Modern invention has gone so far as to stamp out of beeswax a 'comb foundation.' upon which the bees could build their cells, thus saving the time of the busy little insects for gathering honey which otherwise would be devoted to making the thick ground-work upon which the cells are built. A centrifugal machine has been invented whereby the cells can be emptied without breaking them more than is necessary to take off the outside caps, so that the combs can be replaced again in the hive, to be filled again by the bees. Thus time has been economized. But science has never yet been equal to the task of filling these cells artificially, and capping them over in the inimitable style of nature's workers. Thus you see comb honey could not be adulterated with safety."

"It is reported that the honey crop is a failure in several Western States."

"So I have been informed, and various reasons have been assigned for this. I do not regard it as a decided failure. But there will be a short crop. Instead of exporting honey it will be necessary for the West to purchase from the Atlantic seaboard. Some ascribe the failure of the honey crop to grasshoppers, which prevent the bees from working. If this be the case, the subject will no doubt be considered and discussed at the bee-keepers' conventions, and some remedy devised to get rid of the pests."

For the American Bee Journal.

Wintering Bees.

J. H. ANDRE.

Almost constantly for 17 years I have kept bees, and during that time I do not recollect of having lost a good healthy colony with plenty of honey. If I ever lost any it was caused by trying to winter late swarms with poor honey. When I practiced out-door wintering the bees were put in a shed built for that purpose, having a tight roof, bottom, ends and back, and with an open front facing to the south, or a little southeast is better. and away from the shade of buildings or trees. It was built just high enough from the bottom-board to accommodate the hives, probably 2 feet, with a shed roof to carry water off the backside. The bottom should be 2 feet from the ground, and the posts that support the shed should have strips of tin nailed around them to keep the mice away from the hives.

Bees placed in such a shed will get the full benefit of the sun, are protected from cold winds, and will get warmth enough from the sun when it shines to move around and obtain food; but if they were packed on the summer stands the sun would not warm through the packing, and this very packing that is so much talked of, would be sure death to the bees.

I have found that a low temperature for a long time is much more to be feared than severe cold for a week at a time, if we can once in a while have a day so warm as to warm the bees enough to partake of food. All colonies that are packed on the summer stands, if not packed warm enough to protect them from cold and enable them to partake of food at any time, are much worse off than those not packed at all; for a few hours of sunshine would warm the ones not protected, and have no effect on the others. All colonies should have the *debris* removed from the hives once in 2 or 3 weeks.

If I were compelled to winter my bees out-doors in the future. and there came on a cold spell of a week or ten days, during which time I thought the bees could not get food, I would take them to a room and warm them gradually during the day, letting them quiet down during the night, and take them out again in the morning.

If in-door wintering is practiced, a temperature of 40° is best, and this will then enable one to keep fruit in the same room if desired, without being too warm. If bees are kept in a room where the temperature falls below the freezing point, it should be warmed gradually to 50 on one day of each week.

I have tried the plan of raising the hive to give space under the frames, and like it so well that I shall always follow it, where a loose bottom will admit of it. It is very simple. Make a frame an inch or two deep, and the size of hive, and place it between the hive and the bottom-board. One end should be loose so the *debris* can be removed without trouble.

Lockwood,♀ N. Y.

Plowman.

Seasonable Hints—Wintering Bees.

C. H. DIBBERN.

October is again here with its frosty nights and falling leaves. The season for honey gathering is now over, and the next work for the bee-keeper is to see that his bees are properly prepared for the winter. All honey boxes of whatever kind should be removed and stored in some dry place for future use. If any colonies are short of honey, some extra combs should be given them; if none are at hand, then a syrup made of A sugar should be fed to them. All feeding should be done inside the hive, and should be given them in the evening, so that the bees will have it all stored away in their combs before morning. A good deal of care is necessary at this time, as robber bees are troublesome, and the only safe plan is not to expose honey or syrup in the open air. Robbing is easily prevented, but not so easily controlled after it has once commenced in an apiary. If many hives are to be opened, it should be done late in the afternoon, or otherwise, the hives being carried to some room where robber bees cannot enter. All work of this kind should be done *now*, as it is difficult and disagreeable work in cold weather. Bees are very cross too, when exposed in cold weather, and everything comes apart with a snap.

Decide now how you are going to winter your bees. If no suitable cellar is at hand, then they ought to be made as comfortable as possible on the summer stands. Where but few colonies are kept this is easy enough. A good plan is to place the hive inside of a dry-goods box, and pack it all around with leaves or straw, leaving an entrance for the bees. But where many are to be cared for this is impracticable, and I firmly believe, all things considered, a dry cellar is much the best. But if that cannot be had, then the bees should be packed in the best way possible. It should be remembered that it is not exactly the cold that kills the bees. Many causes combine in a cold winter to bring disaster to the bees, and this is what so greatly puzzles bee-keepers.

To insure successful wintering, it is of great importance that the stores upon which depend the health and warmth of the bees, are first-class. The moisture generated by the bees should be absorbed by some covering directly over the bees, and allowed to pass off through holes in the caps. All hives should be examined to see that the roofs do not leak. These are general suggestions, and the bee-keeper must use his own judgment in solving the wintering problem. Bees, if left to themselves, would seal up every crack and crevice with propolis, making the hive water-tight except at the entrance. Now if absorbents are beneficial, why do the bees do this? Can it be possible that the bees would do, in their natural way, what is contrary to their own good? Let us think a minute. Instinct does not teach the bees that there is any covering except what is immediately over them, and it probably also teaches them that it must be waterproof to shed the rains, or they would certainly perish were there no other covering during our winters. Bees work entirely in harmony with nature, and can be handled and cared for as easily and as certainly as any kind of animals, if we but work in the right way.

September did not prove a very good month for honey, and the season closes with a very light crop secured. We have the consolation, however, that what we did get is first-class, and there will be but little trouble in selling it at a fair price. The bees have also abundant and good stores for winter. Generally, bee-keepers have more than made good the losses of the past disastrous winter. Those that gave their bees proper attention have probably secured honey enough to pay them as well as any other work. The possibilities of the future are as great now as ever, and altogether the bee-keeper need not be discouraged.

Milan,⊶ Ills.

For the American Bee Journal.

More Misrepresentation.

E. J. FULLER.

EDITOR BEE JOURNAL:—I send you the following from the Philadelphia *Times*, which does a great injustice to bee-keepers and the pursuit of bee-keeping. Here is the article in full:

"The adulteration of food has been practiced to such an extent that purchasers no longer expect to get a pure article; even when paying the highest prices. It is generally believed that two-thirds of the milk sold in all our great cities is deprived of half its cream; it is known that butter is made from beef fat and cotton-seed oil; maple syrups have lately been made from anything of a sweet nature, and now it is stated that most of the honey we eat is manufactured, and that much of it has not even a drop of genuine honey about it. The alleged honey was first sold in this city some five or six years ago. Its sale at first was scant, but for the past two years it has become very popular, and it is claimed that there is now but little else to be found in the market. Some of it is sold as manufactured honey, though a great deal of it is dealt out to unsuspecting purchasers for the natural product of the honey-bee.

"The spurious kind is usually put up in little square boxes, which sell for 25 to 30 cents a pound. It looks like honey, and it is said that it takes an excellent judge to tell that it is a fraud on the bee. The comb is manufactured with such skill that few can tell it from the genuine article. It is made from paraffine or beeswax, and the honey is blown into it by machinery. Another kind put up in glass vessels like ordinary jelly packages, the centre of which contains a piece of honey-comb, and the honey is made by pouring about six parts of glucose around one part of honey in the comb. Some of it is adulterated with glucose, some with cane sugar, and others by heating ordinary sugar with an acid, but it all resembles honey, and to a certain extent has its flavor and odor."

This is the same old story of misrepresentation. What do you think of it?

Beaver Centre,⊶ Pa., Oct. 2, 1885.

[It is but the re-iteration of that "scientific pleasantry" which Prof. Wiley wrote for the *Science Monthly*, and which he says he thought was a *lie* too big for any one to believe, and so wrote it for the *fun* of seeing how many fools there were who would give credence to it.

The *wily* fabricator is now elevated to the position of United States chemist—but we know of no good reason for his having such an office, unless it is that he has invented and promulgated one of the biggest lies of this age.—EDITOR.]

For the American Bee Journal.

Value of Queens, the Season, etc.

D. R. ROSEBROUGH.

What value is there in a queen? I should say five dollars; and to prove that a queen is worth that much to me, I will state my experience. If the bee-keeper has a queen on hand to give to a queenless or divided colony, that colony will make up the $5 in honey. This year I had six laying queens which I gave to 6 colonies, and from each of them I obtained about 84 pounds of honey. How about the colonies that had to rear their own queens? Some of them swarmed the second time, and one of them swarmed four times. Thirty-three pounds of honey is as much as any of them produced, and some only 10 pounds. So it will be clearly seen that having a queen at the right time frequently makes her very valuable.

If a swarm of bees loses its queen while in the air, and a frame of brood from which to rear a queen is given them, one will soon see the difference in the amount of surplus obtained. On July 3 I had 2 swarms that swarmed in the air at the same time, but I hived them without much difficulty. They were very large swarms, and one of them "balled" its queen; but by giving it a frame of brood they reared a queen, and now have plenty of honey for winter; but from it I received no surplus. The other swarm produced 50 pounds of nice honey.

This has been one of the best honey-seasons since I began to keep bees. My bees wintered well last winter, and they have done well this season. My neighbors say that their bees have done nothing. I often tell them to take the BEE JOURNAL and follow its instructions, and then they will learn how to rear bees and how to work them to the best advantage after they have them reared.

I winter my bees on the summer stands, and I would advise all beginners to prepare their hives so that no mice can enter them, pack them well, and see that the bees have plenty of honey. After having done this, let them alone; for as sure as the hive is opened frequently, and the cold air is allowed to strike the bees, just so sure will they have no bees in the spring. At least this has been my experience.

I have 55 colonies that are in good condition for winter, and if there is such a thing as having colonies too strong in bees to winter well, mine are of that class.

Casey, Ills., Oct. 12, 1885.

Davenport Democrat.

Why the Honey Crop is Small.

"Good prospect for honey this fall?" was the question addressed to Mr. J. J. Nagle, one of the most prominent apiarists in experience and number of colonies of bees in Scott county, Iowa.

"Very poor, I am sorry to say. There will be the lightest yield of honey this locality has known in recent years—I mean since bee-keeping has been engaged in so extensively, for you know that it is only 10 to 12 years that bees were kept elsewhere than on farms, and as incident to farming in this portion of the West, and the reward of the apiarist will be light indeed this year—not honey enough to compensate for the care and trouble of maintaining colonies extensively."

"How do you account for this strange failure. No fault of the bees, was it?"

"No, sir—O, no. The failure is in a secret of nature, which has not been divulged as yet. In some years flowers secrete no honey; they may be abundant in every variety, and yet the bees will explore them in vain for sweets. They may perfume the air about them, lade the air heavily with odors, and yield little or nothing for the bee. This year there were many flowers — spring flowers; summer flowers were abundant in all varieties of wild and cultivated flora, and many of us believed it would be a good year for honey; but the bees found only enough sweets for their own uses. At the opening of the clover season the bees gathered a good deal of honey, but before long the clover blossoms were found to be almost destitute of sweets."

"Do you know of any reason for this phase of the honey failure?"

"There is another mystery. I have carefully considered the question you ask; it has arisen in my own mind many a time. I have come to the conclusion that the reason is in the lack of electricity in the air, ordinarily. Electricity has much to do with the storing of sweets in nature's laboratory. Of course I do not mean the electricity that flashes in the clouds or takes the form of lightning-bolts, but an invisible, all-pervading, and generally quiet electric element in the atmosphere, which has something to do with the storing of honey-dew for the bees. I have noticed many a time that just before a thunder-storm gathers, the bees will be very active in flight, and will gather honey very fast. These observations take me to the conclusion that I have reached concerning electricity in the production of sweets in the flowers."

"Well, but the honey-gathering season ends for the bee from the first to the middle of September, does it not? And what will the bees do themselves for their necessary stores through the fall, winter and spring?"

"It must be remembered that the bees gather enough honey for themselves. That is the case this year. They have stored enough for their own use, but have very little surplus for the producers. Why, I can show you how it is. I have about 140 colonies of bees, and if it had been a good honey season they would have yielded me 10,000 pounds of honey. I had 10,000 pounds in 1882, 3,000 pounds in 1883, and 3,000 pounds last year. But this year I have *only three hundred pounds*, so far. You see there is a great failure in yield. Then, besides, it is not generally known that Scott county lost half its bees—yes, more than half—last winter, through the long spell of extreme cold. But that is not it; there would have been honey enough if the flowers had yielded it. Why, there are 1,000 colonies of bees in the county, and all the apiarists are in the same boat. I have talked with, or heard from probably the largest bee-keepers in this region, and all report the same failure of the honey crop."

"Well, I suppose we must import our honey this fall, then?"

"But the failure is not confined to this region. There is failure nearly everywhere. The same complaint comes from California. There is one corner in Indiana, and a section of Central Texas in which there is a good yield of honey this year. But in Kentucky, Ohio, Indiana, Illinois, Iowa, and California—States which produce the most honey—there is failure as a rule."

Out in Cleona Township lives Mr. Henry Weinhardt, who keeps 30 to 40 colonies of bees. The reporter met him and asked, "How are the times in Cleona?"

"Good—plenty of everything; and we are coming out all right in corn, too," was the reply.

"Plenty of honey, too, I suppose?" queried the reporter.

"No, I forgot about honey—there's a poor yield of honey."

"What do you think is the cause of it?"

"Grasshoppers!" was the quick reply. "I knew as early as June, I believe, that there wouldn't be much honey this year, when I saw what immense numbers of little grasshoppers there were in my clover. Yes, it was as early as that. When grasshoppers are thick they spoil the honey prospects."

"Why, Mr. Weinhardt, how do you know that?"

"That's what we always believed in the old country, and it was always so there. Don't you know, the grasshoppers have been increasing here every year for three or four years, and every year we have had less honey? This year the country has swarmed with grasshoppers, and the bees couldn't gather honey. The grasshoppers gathered the honey-dew; or, if they didn't do that, they sucked the juices from the stalks of blossoms so that they were not deposited in the flowers. It is a fact, I tell you, and nothing to laugh at! In South Germany it was always the case. My father kept bees, and he often said that the bees wouldn't do much when grasshoppers were thick. A bee won't touch a flower that a grasshopper has been on; it can tell somehow as soon as it gets near such a flower. There's an odor from the stuff the grasshopper leaves on everything it touches that the bees don't like. That's news to you? Well, it isn't news to me. And, you mark it, if the grasshoppers increase over the numbers of this year, in the same ratio that they have increased the last few years, there won't be enough honey in the fall of 1886 for the bees themselves—let alone any surplus for the human family—in this locality.

For the American Bee Journal.

Keeping Bees in a Family Room.

A. T. ALDRICH.

In propounding the question relative to keeping bees in a warm room (see Query, No. 125), my main object was to ascertain if it had been tested; and from the answers given I conclude that it has not been tested very thoroughly. Allow me to give my experience in the matter.

On June 28, 1883, I hived a swarm of bees in one of Worrall's observatory hives, and placed it at the end of my desk in the post-office, near a large window on the west side of the room. They did fairly well during the summer. I expected as soon as cold weather came on, that the heat in the room would cause them to fly out into the cold air, and I would have to move them to the cellar; but to my surprise they were more quiet than bees on the summer stands, so I allowed them to remain in that position all winter. They came out bright and strong in the spring, and were the first of 20 colonies to cast a swarm. They stored more than an average quantity of surplus honey in sections, and went into winter quarters strong in honey and bees.

Last winter was a very cold one, as all well know, but the bees kept perfectly quiet and came out in the spring fully as strong as they did the year before; in fact they did not speck the snow at all on their first flight—a thing that rarely occurs in this part of the country. They were among the first to cast a swarm in the spring of 1885, stored more than an average amount of surplus honey during the summer, and are now the strongest colony in bees and honey of my 50 colonies. I think, could they have been on the east side of the building, they would have done still better, for they got no sunshine until the afternoon, which made them late in flying on cool mornings.

Wilcox,⊙ Pa., Oct. 9, 1885.

For the American Bee Journal.

Eight or Ten Frame Hives?

C. P. DADANT.

Mr. Heddon says that my article on page 585, is "but an aggregation of assertions." Is it anything but an assertion to say as he does that "the strongest colonies die of diarrhea?" Both Mr. Heddon and Mr. Hutchinson seem to agree that there is more profit in economizing the additional combs we use in each hive and the prolificness of the queen. Mr. Heddon even says that I entirely ignore his arguments based on the economy of capital. I did ignore them, but simply because I thought Mr. H. would see their fallacy without my showing it.

A bee-hive and its combs in ordinary circumstances, and with a careful owner, will last at least 15 seasons. Now let us suppose, as Mr. Heddon thinks, that it is very costly. Mr. Heddon's hive with 8 frames will cost say $2.50; the foundation for the 8 frames, say 80 cents, making a total of $3.30 for 15 years' use. My hive with 12 frames will cost for 6 feet of lumber more and 4 frames more, say 50 cents additional, and 4 combs of foundation, 40 cents, making an extra and extraordinary (?) outlay of 90 cents more for 15 years' use. Can Mr. Heddon and Mr. Hutchinson say that this is worth mentioning against the great loss caused by not allowing the average queens their full capacity in the spring when the most bees are needed? This extra outlay will be repaid in the very first year by the extra number of bees hatched in nearly every colony before the honey crop.

One restriction, however: Do not understand me to say that each queen will fill every comb of a 12-frame hive with brood before the honey crop, but it is not a good hive unless it allows each queen to exercise her utmost prolificness in producing bees for the honey harvest. The 12-frame hive allows itself to be contracted for the needs of the queen and of the season; while the 8-frame hive does not allow itself to be widened to suit the prolificness of the queen!

Mr. Hutchinson thinks that the yield of honey depends upon the area of the field and not upon the number of colonies employed. If a farmer, having 15 colonies with as many queens, wishes them transferred into movable-frame hives, asks which hive is the best for the production of comb honey, finds that he may not expect more honey from 15 8-frame hives than from 12 12-frame hives, he will certainly adopt the latter; for the question is, how to get the most honey from what colonies we have, and not how to gather all the honey the country yields.

Now, let me make the assertion that, *a hive is too small if it does not allow the queen to lay to the utmost of her breeding capacity previous to the honey crop.* Disprove it, who can.

Hamilton,+o Ills.

For the American Bee Journal.

Bees Swarming Late.

L. J. KEYES.

Finding one of my colonies of bees too light for wintering, on Oct. 1, I placed in the cap a feeder filled with sugar syrup, which at once the bees commenced to take below. This was at evening. At 11 a.m. the next day a swarm issued from this hive and clustered on an apple tree near by; but as I had noticed many robber bees around the hive, my first conclusions were that the bees had been driven out by some means yet unknown to me. After placing the swarm in a paper hive, I carefully examined them, but found no queen. Just before putting them back I went to the old hive where I found a bee taking from the entrance a half-dead queen, which I secured.

Never having read of anything like this, and supposing that the robbers had killed the queen, I replaced the swarm that came out and closed up the hive until evening, removing the feeder from the cap. I then sought out a weak colony and placed this hive by it preparatory to transferring them to the other hive, as a queenless colony would be of no account in wintering.

Three days from that time the weather became warm and I commenced brushing the bees in front of the other hive, after thoroughly smoking them both. My surprise may be imagined, when upon taking out the last frame, I found a fertilized queen upon the comb, as well as two queen-cells. The bees had actually swarmed at that late day, but at the last moment the queen had refused to go, and had returned after going, only to be killed by the remaining bees or by the robbers. It was the virgin queen that was killed.

I have written the above for the benefit of those who know as little about bees as I do, that if they should meet with such an experience, before concluding that the colony is queenless, they would examine it and thus save a good colony of bees. Probably some of the prominent apiarists who answer queries, can explain this curious freak in this colony of bees.

Nora Springs,♂ Iowa, Oct. 10, 1885.

Fredonia Censor.

A Visit to Mr. U. E. Dodge's Apiary.

A reporter of the *Censor* gives the following account of his visit:

Whether bees have reasoning powers or not is still a debatable question. Certainly their actions indicate co-operative work under a distinct form of government, although the system has not yet been found out. It is a most interesting study, and to talk with one who understands it, brings to light many interesting and peculiar facts. Such a one is Mr. U. E. Dodge, whose neat, perfect farm of "ten acres enough" lies on Spring Street, in Fredonia, and who, besides producing delicious fruits and perfect vegetables, keeps, for profit and entertainment, 223 colonies of bees. I do not believe that there are many hundred-acre farms in the county that yield more profit than these ten acres that are scientifically worked. He has a carpenter shop with a foot-lathe and full equipment of carpenter tools, where, on rainy days and during the winter, the farm tools are repaired, bee-hives constructed, and also boxes for honey and crates for fruits are made; there is the house for extracting honey, and a neat little office where Mr. Dodge has his papers, and where he writes for agricultural and bee papers, and studies his books. On agriculture, horticulture or bees, he is an encyclopœdia of information drawn from practical experience.

"I have kept bees," said Mr. Dodge, "for thirty years, but I did not know anything about it until about six years ago when I commenced making a business of it. There is more about bees that is interesting than anything I have ever handled (not to speak of the stings), and I have become intensely interested in them. Besides, they are the most profitable, and in proportion to their size they produce more than any animal that a farmer can keep."

Mr. Dodge has some colonies of pure Italians and some of Syrian or Holy-Land bees, but the larger part are of mixed races which he says for honey-producing are just as good. The Italians are docile, but not as busy as the Holy-Land bees, though the latter have the name of being easily irritated. The Syrians wear burnside whiskers down their sides; they are indefatigable workers, but breed so fast that it is doubtful if they give any more surplus, requiring more food for the colony.

Mr. Dodge keeps about 40 combs of honey on hand for the winter to re-inforce colonies that run short of food supply. They can be fed syrup and water, but this does not produce honey. They store it in cells the same, but it is only syrup after all. "Bees do not make honey," says Mr. Dodge; "that is the nectar of the flowers. They simply gather it and store it. I have now on hand, and with that which is in the hives, exclusive of the brood-chambers, about 5,000 pounds of honey."

While talking and idly watching a hive of Italians, Mr. Dodge called the reporter's attention to an uneasy bee that was circling around the hive. "That," he said, "is a robber or scout from another colony, to find out how strong this colony is. It will watch its chance, and if able to pass the sentries undetected, will load itself with honey, and when it comes again it has an army at its back. The only resistance is made at the barriers where there is some slaughter."

The Syrian robber that we were watching did not succeed, for not being able to give the "pass-word," it was immediately seized by the rear legs and pushed off the platform, being able to escape with its life. "If there are bees enough to cover the comb," said Mr. Dodge, "robbers will not come." He kept his hives pretty evenly populated by strengthening weak colonies with brood-combs from more populous hives.

Instead of a glass box, honey is now put up for market by the bees in a frame 4x4 inches on the inside, and this being put into a paper box, it looks as pretty as a box of confectionery. In this frame a bit of thin foundation is placed so that the bees will start the comb straight. There are 28 of these small frames, holding just about enough for table use, held in a large crate or case the size of the hive. For liquid honey, a strong foundation and frame of the full size of the hive is used. This, when filled, is placed inside of a cylinder which revolves, and the caps first being taken from the cells, the honey is sent out by centrifugal force.

Bee-Keepers' Magazine.

The Pecten or Comb of the Bee.

Not the least wonderful feature in the anatomy of the bee, is that artistic contrivance, which, from its conformation and use, may very properly be termed the bee's comb.

As the perception of the bee depends upon the sensibility of the antennæ, it is obvious that those organs, to fulfill their various functions, must be kept perfectly clean, and hence the Great Mechanician, in organizing and creating the bee, anticipated its necessities in this respect, and provided an effective instrument for its relief.

On a pleasant day, if we take our position near a hive, while the bees are passing out and in, we shall most likely notice more than one bee stop a moment upon the alighting-board, raise one of its forelegs and appear to wipe the antennæ with it; and as the leg is covered with bristles, we might conclude that these answered the purpose of a brush, to cleanse the antennæ; but, watching more carefully we shall observe that only a particular place in the leg is applied to the antennæ, and examining this place with a microscope, we shall find, just below the articulation of the two longest joints, a semi-circular notch, lined with teeth, and just above, a thumb-like appendage, which, upon the leg flexed, extends across the opening of the notch; this thumb presses and retains the antenna within the notch, and wipes the under side of it, and may serve at other times as a brace to support the joint.

The number of teeth is about fifty, placed close together and even. The right leg has its comb for the right antennæ, and the left for the left antennæ; the combs are used either alternately, or both are applied at the same moment, while the bee is poised upon its middle and hind legs. During the nuptial season, when the drone sallies from the hive, it would be extraordinary if he did not pause a moment at the entrance to comb down his antennæ. The queen, equally with the worker and drone, is provided with a similar pair of combs, and some other insects furnished with antennæ, have a similar arrangement for keeping those organs in perfect order.

For the American Bee Journal.

The Season—Visiting Ind. Apiarists.

I. J. GLASS.

In reporting the yield of honey for this part of Illinois, the figures would not be very astounding. The flow from white clover began with flattering prospects, but the protracted drouth cut it short. I had a patch of buckwheat, but the weather turned so cold and wet that the bees could work on it but little. My returns for the season, although small, compared with the reports of some others, are nevertheless encouraging, and I can say that my bees will go into winter quarters in better condition than ever before. I have had such remarkably good success during the two previous winters, by housing my bees in the cellar, that I am inclined to deviate very little from the past in preparing them for the coming winter.

My cellar is not very dry, and it has no ventilation pipes, but it has direct ventilation from two windows. Last winter, owing to the extreme cold, the windows were tightly closed, with snow banked on the outside, for six weeks, and in order to keep the temperature above 45°, I had to resort to artificial heat. I have come to the conclusion that dampness does not affect the bees in confinement, if the temperature is kept between 45° and 50°. I am a little inclined to the pollen theory, but as I have no surplus combs, that plan of wintering is not applicable in my case. Yet I regard the temperature and perfect quiet to be of more importance than any other consideration; for with those requisites I am not fearful of serious consequences.

Recently it has been my pleasure to visit some bee-keeping friends in Indiana, among whom were George Hatfield & Son. Mr. Hatfield has kept bees for more than 35 years, and it seems as though the enthusiasm of these two bee-keepers increases with their long experience. Time and again has their apiary been swept almost tenantless, by disease and other disasters, and last winter more than 75 per cent. of their colonies succumbed to the inevitable; yet by increasing their colonies by division, they have stocked up again, and their apiary presents a fair appearance.

I do not believe that these gentlemen are known in the bee-papers, but their knowledge is from experience alone, and their ideas are generally correct. The manner in which they propose wintering their bees the coming winter is as follows:

They will make a large, long box out of 12-inch lumber (the length to be determined by the number of hives), and this box or trough will be placed with the open side downward, and elevated about 2 inches from the ground. The hives will be placed on the ground in two rows, one on each side of this trough, with the front ends coming close against this long box, the hive-entrances to be just under the lower edge of the box, and the hives 4 inches apart. All around and about 20 inches from the rear of the hives, it is to be boxed up about 20 inches higher than the tops of the hives, and this space is to be packed closely with dry sawdust. Each end of the long box or trough is to reach to the outside for ventilation, and all covered so that it will not leak.

Another apiarist of some note in that locality—a Mr. Kelley—has erected a stone house for his bees; but I am sure that it will be too cold, unless he resorts to artificial heat.

Another bee-keeper whom I met, lost a colony of bees last winter, which, as is claimed by all who saw them, would not sting. His children could play with them, and the most nervous persons could handle them with the same impunity as if they were drones. I have some gentle Italians, but they are not very pleasant "play-things."

Sharpsburg,⊙ Ills.

Rural Canadian.

Hints about Wintering Bees.

J. C. THOM, M. D.

Wintering our bees may be done in two ways, and it is for the bee-keeper to decide which plan he will follow, and then persevere with it until he attains the measure of success that experience will in the end put him in possession of. The first way is in a special repository built for the purpose; the second is a good cellar.

The cellar being most generally obtainable, it should be made thoroughly dry, if not already so. Make a partition across one part of it (the darkest and quietest end), leaving room according to the number of colonies to winter. Construct benches a foot or two high for the hives to be placed upon, and the repository is ready. Much has been written on the subject of sub-earth ventilation; but if the air of the cellar can be kept pure and sweet, it is sufficient to keep the bees in health. Keep the temperature always above freezing.

Some sunny day early in November, remove the honey-boards and place a sheet of factory cloth beneath them.

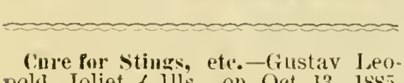
About Nov. 20 or 25 will be a suitable time to put in the colonies. Remove the covers and honey-boards, leaving quilts only over the bees; lift them quietly upon the benches and leave them in quietude and darkness until the warm spring days arrive.

The owner of a few colonies may with advantage remove them from the cellar and allow them to have a flight on any genial day of February or March, remembering to place them on the stands which they severally belong to.

If open-air wintering is preferred, procure one of the many double-walled, chaff or sawdust packed hives, and they will prove a success in the majority of winter seasons. Exceptionally severe seasons now and then occur when they prove an insufficient protection. However, if colonies of bees are in single-walled hives, place them close together in a row facing the east, in a sheltered spot in early October. In early November remove them while you construct a protection for them, by laying a floor of boards long enough to accommodate the row of hives; set up posts at the corners, and nail boards around the floor, and in this box place 9 inches or a foot of chaff; place the hives now on this, 6 inches or so from the front, and make a spout or trough the size of the entrance, reaching from each hive to an aperture cut in the boards. Nail the boards to the post to form the box a foot or so distant from the back and sides of the row. When the box is filled with dry chaff to a level with the tops of the hives, remove the tops and honey-boards, substituting therefor a thick, well-made cushion of chaff or cedar sawdust; raise the sides of the box high enough to cover the cushions with chaff 6 inches; cover all with a good rain-proof roof, and the bees will be tolerably certain to survive an ordinary Canadian winter, provided all other conditions are right, such as having abundant stores, prolific queens, etc.

Streetsville, Ont.

SELECTIONS FROM OUR LETTER BOX



Cure for Stings, etc.—Gustav Leopold, Joliet, ♂ Ills., on Oct. 13, 1885, writes:

I notice in the last BEE JOURNAL that a woman lost her life by a bee-sting. The following is a sure cure for the stings of bees, wasps, hornets, scorpions and snake-bites: As soon as a person has been stung, pull the sting from the wound and soak a cloth in spirits of hartshorn and apply it to the wound. Should the patient faint, whisky should be given at once and enough to bring the patient under its influence, and to keep him so at least for four hours. The whisky will keep the poison from penetrating to the brain and heart. If the weather is very hot the patient ought to be placed in a cool cellar. All remedies which are applied by rubbing are worse than none. Applying the mouth to suck the poison from the wound is a humbug; it will cause severe headache and produce vomiting. My bees are in fine condition this fall. I sold my 50 colonies last spring, and then bought 9, which I have increased to 39 colonies this season.

Hercules' Club.—T. Pierce, Gansevoort, ○+ N. Y., writes:

I send a sample of the blossoms and berries of a plant, and a full-length leaf with the stem. It blooms during August and September, and the bees just swarm on it all day long. It is found near the sidewalks, and as people pass by they stop to look for the swarm of bees, as they suppose the bees are swarming. It grows like a tree in form, but the branches grow very bluntly and the body has many short, fine thorns upon it. Please give its name in the BEE JOURNAL. Here it is called a "club tree."

[This is Hercules' Club (*Aralia spinosa*), sometimes called Angelica-tree. It is widely distributed throughout the United States, but the portions above ground are liable to be destroyed by frost north of about 40° to 42 north latitude. Suckers from the roots cause it to spread rapidly when once started. It is a plant more noticeable on account of its oddity than for its beauty, and can scarcely be said to be worth anything, unless indeed it may be of service for bees. Of the quality of the honey gathered from it I know nothing, but I should suspect it as not being first class. There is evidently a good supply of it. The flowers are adapted for cross-fertilization by insects and doubtless attract others as well as bees. The tree is nearly related to ginseng and wild sarsaparilla.—T. J. BURRILL.]

Space below Frames.—Chas. Mitchell, Molesworth, Ont., writes thus concerning space below the brood-frames for wintering:

Almost without expense or trouble when nailing hives together, the entrance can be made $1\frac{1}{4}$ inches high. For summer the apiarist can shove in loosely a $\frac{7}{8}$-inch board cleated at both ends, which leaves a $\frac{3}{8}$-inch entrance the full width of the hive. For wintering the cleated board may be removed, which will then leave about $1\frac{1}{2}$ inches of space below the frames. Practically considered this ought to be cheap and convenient.

Fair Crop of Honey.—N. L. Minor, a deaf-mute bee-keeper of Clarksville, ♂ Mo., on Oct. 13, 1885, writes:

I have repeatedly tested different plans for getting a good crop of honey in a poor season. Last spring I had 36 colonies of bees which I doubled back to 27, and since then I have had another chance to ascertain what could be done with bees in a poor season. I did not allow my bees to increase. Last spring I extracted from a few colonies about 50 pounds of white clover honey. Not much comb was built this season on account of the intense heat and changeable weather. I am well pleased with a small apiary, as I obtained more honey, accordingly, than I would from a larger one. I will unite some of my colonies again this fall. I save the good combs of honey in the summer and then give them to my bees for winter stores. I am still extracting honey, and I think that I will have a good crop of honey for a bad season. It is raining to-day, and the weather is somewhat cold.

Report for Two Seasons.—E. J. Fuller, Beaver Centre, ⊸ Pa., on Oct. 7, 1885, writes:

I started in the spring of 1884 with 5 colonies of bees, and increased them to 20 colonies. Last winter I wintered 8 out of the 20, 4 of which were strong and 4 weak. I sold one, and commenced the season of 1885 with 7 colonies, which I have increased to 25. They are all in fair condition for winter. The past season I have taken 150 pounds of honey in one-pound boxes. The weather having been unfavorable for the last four weeks, the bees gathered scarcely enough to winter on.

Poor Season, Moths, etc.—F. H. Kennedy, Duquoin, ♀ Ills., on Oct. 14, 1885, writes:

This has been rather a bad season for bees, and so we have had but little surplus honey. There are but few in this locality who make a specialty of bee-keeping. Most of those who begin get a hive and place it down, expecting the bees to produce honey without care or attention. I think that there will be a change ere long. At our meeting in Duquoin, Ills., on Oct. 1, Mr. C. M. Dixon advanced the idea that bees gather the moth-egg from the flowers, in the pollen, more often than the miller lays the egg in the comb in the hive. Honey gathered by Italian bees is not apt to become infested with moths when taken from the bees and put away for future use.

Local Convention Directory.

1885. *Time and place of Meeting.*

Oct. 22, 23.—Northern Michigan, at Sheridan, Mich.
F. A. Palmer, Sec., McBride, Mich.

Oct. 28, 29.—Central Illinois, at Jacksonville, Ills.

Nov. 5, 6.—N. J. & Eastern, at Trenton, N. J.
Wm. B. Treadwell, Sec., 16 Thomas St., N. Y.

Nov. 12.—Central Michigan, at Lansing, Mich.
E. N. Wood, Sec., N. Lansing, Mich.

Dec. 8—10.—Michigan State, at Detroit, Mich.
H. D. Cutting, Sec., Clinton, Mich.

Dec. 8—10.—North American, at Detroit, Mich.
W. Z. Hutchinson, Sec., Rogersville, Mich.

Dec. 8-10.—Northwestern, at Detroit, Mich.
W. Z. Hutchinson, Sec., Rogersville, Mich.

☞ In order to have this table complete, Secretaries are requested to forward full particulars of time and place of future meetings.—ED.

WEEKLY EDITION
OF THE
AMERICAN
ESTABLISHED IN 1861
OLDEST BEE PAPER IN AMERICA
BEE JOURNAL
PUBLISHED BY
THOMAS G. NEWMAN & SON,
PROPRIETORS,
923 & 925 WEST MADISON ST., CHICAGO, ILL.
Weekly, $2 a year; Monthly, 50 cents.

ALFRED H. NEWMAN,
BUSINESS MANAGER.

Special Notices.

SPECIAL NOTICE.—On January 1, 1886, the price of the Weekly BEE JOURNAL will be reduced to *One Dollar a Year*. This we have contemplated for some years, and only awaited the proper time to warrant us in issuing the Weekly BEE JOURNAL at the very low price of *one dollar* a year. That time has now come. We shall continue to improve the BEE JOURNAL, and it will maintain its proud position as the leading bee-paper of the World!

New subscribers will be supplied with the Weekly from now until the end of the year 1886, for **$1.25**.

Those who have already subscribed for any portion of *next year* will have the time beyond January 1st doubled. These changes in the mail-list type are already made.

* * *

For $1.25 we will send the Weekly BEE JOURNAL to *new subscribers* from now until the end of 1886—fourteen months. Now is the time to subscribe. The sooner it is done the more they will get for the money.

* * *

To Correspondents. — It would save us much trouble, if all would be particular to give their P. O. address and name, when writing to this office. We have several letters (some inclosing money) that have no name; many others having no Post-Office, County or State. Also, if you live near one post-office and get your mail at another, be sure to give the address we have on our list.

* * *

Any person not a subscriber, receiving a copy of this paper, will please consider it an invitation to become a subscriber to it.

* * *

☞ All who intend to be systematic in their work in the apiary, should get a copy of the Apiary Register and commence to use it. The prices are as follows:

For	50 colonies (120 pages)	$1 00
"	100 colonies (220 pages)	1 25
"	200 colonies (420 pages)	1 50

The larger ones can be used for a few colonies, give room for an increase of numbers, and still keep the record all together in one book, and are therefore the most desirable.

Honey and Beeswax Market.

Office of the AMERICAN BEE JOURNAL, }
Monday, 10 a. m., Oct. 19, 1885. }

The following are the latest quotations for honey and beeswax received up to this hour:

CHICAGO.

HONEY.—It is in good demand, and for the best grades of white comb honey 15@16c. is obtained. Off-colored and dark find very slow sale. Extracted is steady at 5@8c. per lb.

BEESWAX.—24@25c. Offerings of honey and wax are light.

R. A. BURNETT, 161 South Water St.

BOSTON.

HONEY.—It is selling very well but prices are very low, and we are often obliged to shade our prices in order to make rates. We quote comb honey in 1-lb. sections at 14@16c., and 2-lb. sections at 12@14c. Extracted, 6@8c.

BEESWAX.—30 cts. per lb.

BLAKE & RIPLEY, 57 Chatham Street.

NEW YORK.

HONEY.—There is not much change in the market. The new crop is coming in quite freely, and is selling readily at the following prices: Fancy white clover, in 1-lb. sections, 14@15 cents; the same in 2-lb. sections, 12@13c.; fair to good, in 1 and 2 lb. sections, 10@11c.; fancy buckwheat, in 1-lb. sections, 11@12c.; the same in 2-lb. sections, 9@10c. Extracted, white clover, 6@7c.; buckwheat, 5@6c.

BEESWAX—Prime yellow, 25@28c.

McCAUL & HILDRETH BROS., 34 Hudson St.

CINCINNATI.

HONEY.—There is no material change in the market. Demand is slow for manufacturing purposes, while the trade is fair in comb and extracted honey for table use. Arrivals are good. Choice comb honey brings 14@16c. per lb. in a jobbing way, and extracted honey, 4@8c., according to quality.

BEESWAX.—Home demand is fair, and it brings 20@22c. for choice yellow, on arrival.

C. F. MUTH, Freeman & Central Ave.

SAN FRANCISCO.

HONEY.—Arrivals are quite light, with a probability of so continuing through the balance of the season. There is some inquiry for best qualities, with a firm market for the same. Quotations are as follows: White to extra white comb, 9@11c.; dark to good, 5@8c. Extracted, white liquid, 5@5½ cts.; light amber colored, 4½@5c.; amber and candied, 4¼c.

BEESWAX.—Quotable at 23@25c., wholesale.

O. B. SMITH & CO., 423 Front Street.

CLEVELAND.

HONEY.—The new crop is beginning to arrive and is selling at 14@15 cts. per lb. for choice 1-lb. sections. Old honey is very dull—none selling although freely offered at 10@12 cts. Extracted, as usual is not in demand in our market.

BEESWAX.—20@22 cts. per lb.

A. C. KENDEL, 115 Ontario Street.

KANSAS CITY.

HONEY.—We now report a very firm market with some advance in prices, though the trade take hold very slowly as yet, and complain terribly when the advance is quoted to them. We are now holding for 16@17c. for fancy white honey in 1-lb. sections, 15@16c. for 2 lbs., and 12@13c. for Calif. Fancy 1-lb. sections, if marketed soon, will bring a good price. Extracted is a little firmer at about the same prices, viz: Miss., La. and Texas, 4@6c., and white clover and Calif., 7@8c.

BEESWAX.—Unchanged, 20@25c., according to quality.

CLEMONS, CLOON & CO., cor. 4th & Walnut.

* * *

"Don't Stop"—that is what many write to us about their papers, when their time is nearly out. One subscriber says: "This has been a year of disaster, and it is not convenient for me to send you the money now to renew my subscription. It runs out with this month; *but don't stop sending it*. I will get the money to you within three months." Such letters are coming every day, and so for the present we have concluded not to stop any papers until requested to do so.

* * *

Preserve your papers for reference. If you have no **BINDER** we will mail you one for 75 cents, or you can have one FREE if you will send us 4 new yearly subscriptions for the BEE JOURNAL.

The Western World Guide and Hand-Book of Useful Information, contains the greatest amount of useful information ever put together in such a cheap form. The printing, paper, and binding are excellent, and the book is well worth a dollar. To any one sending us two *new* subscribers besides their own, with $3, for one year, we will present a copy of this valuable book.

☞ Our rates for two or more copies of the book, "Bees and Honey," may be found on the Book List on the second page of this paper. Also wholesale rates on all books where they are purchased "to sell again."

* * *

☞ **Sample Copies** of the BEE JOURNAL will be sent FREE upon application. Any one intending to get up a club can have sample copies sent to the persons they desire to interview by sending the names to this office, or we will send them all to the agent.

* * *

☞ We want one number each of the BEE JOURNAL of August, 1866—February, 1867.

Advertisements.

HONEY

WE are now in the market, and will be during the entire season, for all honey offered us, in any quantity, shape, or condition—just so it is pure. We will sell on commission, charging 5 per cent.; or, if a sample is sent us, we will make the best cash offer the general market will afford. We will handle beeswax the same way, and can furnish bee-men in quantities, crude or refined, at lowest market prices. Mr. Jerome Twichell, our junior member in this department, has full charge, which insures prompt and careful attention in all its details.

Sample of comb honey must be a full case, representing a fair average of the lot. On such sample we will make prompt returns, whether we buy or not.

CLEMONS, CLOON & CO.,
36A17t KANSAS CITY, MO.

BEESWAX
WANTED.

WE will pay 30 cts. per pound, in trade, for good yellow wax, delivered at our Railroad Station. Give us a trial order and see if we do not please you.

J. B. MASON & SONS,
42A1t MECHANIC FALLS, MAINE.

THE BRITISH BEE JOURNAL
AND BEE-KEEPER'S ADVISER.

The BRITISH BEE JOURNAL is published SEMI-MONTHLY, at Seven Shillings per annum, and contains the best practical information for the time being, showing what to do, and when and how to do it.

The British Bee Journal and our Weekly for $2.50.

THE HORSE,
By B. J. KENDALL, M. D.

A TREATISE giving an index of diseases, and the symptoms; cause and treatment of each, a table giving all the principal drugs used for the horse, with the ordinary dose, effects and antidote when a poison; a table with an engraving of the horse's teeth at different ages, with rules for telling the age of the horse; a valuable collection of recipes, and much valuable information.

Price 25 cents—in English or German.

THOS. G. NEWMAN & SON,
923 & 925 West Madison St., CHICAGO, ILL.

The Western World

GUIDE and HAND-BOOK

OF USEFUL INFORMATION.

For HOME SEEKERS or Tourists, Capitalists or Laborers. A vast amount of information not to be found elsewhere at any price.

A cloth-bound book, 4x7 inches, 288 pages

Price, 50 Cents.

The following is only a part of the Contents:

Colored Maps of all the States and Territories, including Alaska and District of Columbia.

Diagrams showing area, population, products, Government, State, School and Indian Lands of the several States.

Histories of each of the States from the Earliest Times.—Descriptive of their Topography, Soil, Climate, Rivers Mountains, Natural Wonders, Population, Area, Islands, Lakes, Mines, Products, Manufactures, Industries, Cities, School Systems, Collection and Exemption Laws, Date of Holding Elections, Number of Representatives, Senators, Congressmen, and Presidential Electors, Number of Union and Confederate Soldiers in the Field, Price of Land Cleared and in Forest, Extent of Forest, Number of Different Callings, Rate of Interest, Usury Laws, PEDDLER OR DRUMMERS' LICENSE LAWS, DIVORCE LAWS, MINING LAWS, DESCRIPTION OF PUBLIC LANDS, LIST OF LANDS SUBJECT TO THE FORMS OF ENTRY, List of Land-Offices, Opportunities for Homes or Enterprise, Rainfall, Health, Ports of Entry, Population (male, female and foreign) Number of Indians, Mineral Resources, Nicknames of States and for whom or what they are named, Miles of Railroad and Canals, Tidal Frontage, STATE LAND LAWS, Religious Denominations and their Numbers, Number of Counties and Names.

Government Land Laws giving complete law on the subject of PRE-EMPTION HOMESTEAD, TIMBER CULTURE, SOLDIERS' HOMESTEAD, SWAMP LANDS, LAND WARRANTS, SCRIP, INDIAN TRUST LANDS, DESERT LANDS, COAL LANDS, TIMBER LANDS, MINERAL LANDS, AGRICULTURAL COLLEGE LANDS, ETC.

How to Acquire Lands of any kind belonging to the Government by any forms of entry, who may acquire them, and the different laws applicable to the different sections.

Postal, Pension and Patent Laws of the United States.

Coats-of-Arms of the States and Views of Celebrated Places, and of life in different regions.

Rules for measuring Lumber, Logs, Grain, Liquids, Tables of Weights and Measures of all kinds, Interest Rules and Tables, Lumber Tables.

Systems of Land Measures in various parts of the United States.

Contains also a Million useful facts.

The Weekly Bee Journal, for one year, and the Guide, postpaid, for $1.30.

THOS. G. NEWMAN & SON,
923 & 925 West Madison St., CHICAGO, ILL.

Dadant's Foundation Factory, wholesale and retail. See Advertisement in another column.

Bingham Smokers

AND

HONEY-KNIVES.

Send for Circulars.

Bingham & Hetherington,
ABRONIA, MICH.

WIN more money than at anything else by taking an agency for the best selling book out. Beginners succeed grandly. None fail. Terms free. HALLETT BOOK CO.
51Aly Portland, Maine.

Dadant's Foundation Factory, wholesale and retail. See Advertisement in another column.

Our Club List. ALL the best publications devoted to bee culture, at reduced rates. Send for Prospectus.
41Atf **H. ALLEY, Wenham, Mass.**

QUEENS

AT REDUCED PRICES.

OWING to the scarcity of money, I will SELL **Warranted Queens at $8.00 per dozen. Two dozen for $15.00.**
30ABtf **J. T. WILSON,** Nicholasville, Ky.

Bee-keepers' Supplies,

Standard Langstroth,

Quinby Standing-Frame,

And all other kinds of **Hives,**
MADE TO ORDER,

Quinby Smoker a specialty.

I shall supply anything you need in the Apiary. Send for Illustrated Price List.

W. E. CLARK, successor to L. C. Root,
7A1y ORISKANY, Oneida County, N. Y.

THE INVERTIBLE HIVE!

INVERTIBLE FRAMES,

Invertible Surplus Honey Cases,
Entrance Feeders, Top and Bottom Feeders,
Hive-Lifting Device, Honey Extractors,
Wax Extractors, Comb Foundation, etc.

☞ My new Illustrated Catalogue is now ready, and will be mailed to all who may apply for it. Address,

J. M. SHUCK,
DES MOINES, IOWA.
10A1y

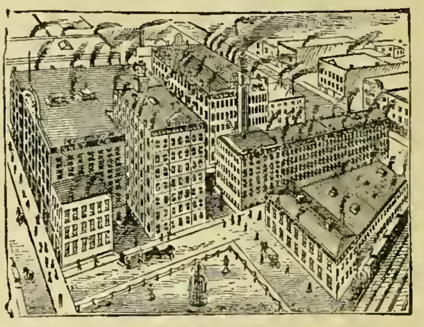
NEW ONE-POUND HONEY PAIL.

THIS **new size** of our Tapering Honey Pails is of uniform design with the other sizes, having the top edge turned over, and has a bail or handle,—making it very convenient to carry. It is well-made and, when filled with honey, makes a novel and attractive small package, that can be sold for 20 cents or less. Many consumers will buy it in order to give the children a handsome toy pail. **PRICE, 75 cents per dozen, or $5.00 per 100.**

THOS. G. NEWMAN & SON,
923 & 925 West Madison Street, CHICAGO, ILL.

A PRIZE. Send six cents for postage, and receive free, a costly box of goods which will help you to more money right away than anything else in this world. All, of either sex, succeed from first hour. The broad road to fortune opens before the workers, absolutely sure. At once address TRUE & Co., Augusta, Maine.
51A1y

COLUMBUS BUGGY CO.,
COLUMBUS, OHIO.



(View of our Factory.)

MANUFACTURERS OF

STRICTLY

FIRST-CLASS VEHICLES

At New Orleans World's Exposition was awarded 1st. Premium for finest display of Vehicles, against 64 Competitors.

The justly **celebrated Brewster** cross-spring **side-bar** being our great specialty, we build **only one grade** of work, and that of **the best in quality and style.** We do not make the lowest priced vehicles, but claim that ours are the **cheapest in the world** when **quality** is considered. We use the **finest material** obtainable, employ only **expert** and **competent mechanics.** To insure the best and most uniform results, we now **manufacture our own wheels** from **finest timber** (sawed by our own mills) that can be obtained from the hills of Southern Ohio—famous as the **second growth hickory** district.

The reputation of the **Columbus Buggy Company** is unexcelled. The work is known and sold throughout the **entire** United States and Territories. Well introduced in England, Germany, Australia and South America.

Send for Catalogue and prices, and the name of the nearest dealer will be sent. 41A6t

GREEN'S FRUIT GUIDE
64 pages, with colored plate, illustrated, price 5 cts. "How to Propagate and Grow Fruit." 64 pages, 2 colored plates, 50 illustrations. price 50 cents.

GREEN'S FRUIT GROWER,
price 50 cents per year. Sample copy free. Address,
GREEN'S NURSERY CO.,
Rochester, N. Y

FLAT-BOTTOM
COMB FOUNDATION,

high side-walls, 4 to 16 square feet to the pound. Circular and samples free.

J. VAN DEUSEN & SONS,
Sole Manufacturers,
Sprout Brook, Mont. Co., N. Y.

$200,000 *in presents given away.* Send us 5 cents postage, and by mail you will get *free* a package of goods of large value, that will start you in work that will at once bring you in money faster than anything else in America. All about the $200,000 in presents with each box. Agents wanted everywhere, of either sex, of all ages, for all the time, or spare time only, to work for us at their own homes. Fortunes for all workers absolutely assured. Don't delay. H. HALLETT & CO.
51A1y Portland, Maine.

WEEKLY EDITION
OF THE
AMERICAN
ESTABLISHED IN 1861
OLDEST BEE PAPER IN AMERICA
BEE JOURNAL

THOMAS G. NEWMAN,
EDITOR.

Vol. XXI. Oct. 28, 1885. No. 43.

APICULTURAL NEWS ITEMS.

EDITORIAL AND SELECTED.

How very fair becomes the autumn sod,
With all the glory of the goldenrod.

Let us Sow good services—then sweet remembrances will grow with them.

Mr. James Heddon has taken out a patent on his new hive. It is noted in last week's *Scientific American*.

Mr. J. W. Tefft, of Syracuse, N. Y., desires to say that the item on page 579 brought him many inquiries concerning his hive, but he does not make it for sale.

The Autumnal Bloom is generally abundant, but later than usual. Along the rivers the bloom is very full. If the weather is warm and frosts keep off there will be some more honey gathered by the bees yet this fall.

Mr. Allen Pringle exhibited a "pyramid of honey" at the Lennox, Ont., Exhibition, on Oct. 5 and 6, 1885, and the *Beaver*, a paper published at Napanee, Ont., says that his exhibit was "the finest" in the line "ever made" in that "county." His summer and winter-hives were specially mentioned.

The Fat Stock Show will be held at Chicago, Ills., from Nov. 10 to 19, 1885. All the railroads with Chicago connections will sell excursion tickets to the show at greatly reduced rates. The exhibition will be open to the public day and evening (except Sunday) from 9 a.m. Tuesday, Nov. 10, 1885, until 10 p.m., Thursday, Nov. 19, 1885. Gov. Oglesby and other noted men will be present and make addresses on the opening night.

A Correspondent of the *Bulletin d' Alsace-Lorraine*, tells how he stopped the robbing of a hive by means of a solution of carbolic acid. A colony having been attacked by robber bees, he made a weak solution of the acid, with which he sprinkled the hive and its approaches. The robbers at once withdrew, and fifteen minutes later he sprinkled with the same solution all the other hives, including those occupied by the marauders. He had no further trouble of the kind.

To Educate Consumers of Honey on the difference between the "strained" honey of commerce and pure extracted honey, is now the duty of the bee-keepers. The strained honey of commerce is obtained mostly from South America and the island of Cuba. Extracted honey is the pure nectar taken from the combs by centrifugal force, that the combs, which are of more value than the honey, may be returned to the hives to be again and again filled by the bees.

A New Poultry Guide, entitled "Standard and Commercial Poultry Culture, by Artificial Process," written by Dr. T. B. Spaulding, of Edwardsville, Ills., and published at the office of the *American Poultry Journal*, Chicago, is on our desk. It details the profitable management of a poultry yard, and should be read by all who are interested in poultry culture, and who desire to make that rapidly-developing industry pay.

The Complaint of the San Bernardino fruit grower against the bee-keeper mentioned on page 611, states "that he is the owner of a large quantity of raisin grapes, and that the defendant is the owner of 350 colonies of bees in the same neighborhood. Between Sept. 15 and Dec. 15, 1884, it is alleged, the defendant's bees visited the premises of the plaintiff and ate and damaged the drying raisin grapes to a large amount. Between Aug. 25 and Sept. 8, 1885, the aforesaid bees again visited the plaintiff's property and damaged growing grapes to a considerable extent, wherefore judgment for an amount sufficient to cover the loss is asked." The suit is for $399 in a Justice Court. There is considerable excitement in the neighborhood about it—and there will be a lively fight. The National Bee-Keepers' Union is backing up the apiarist to the extent of its ability. Our readers will be informed of the result when it is ascertained.

Some Persons delight in getting their disputes and quarrels into print, even when there can be no reasonable excuse for doing so. This reminds us of the advice given by the sagacious William, Emperor of Germany, when any member of the royal family complained to him of another one. He invariably advises thus: "Do nothing; say nothing; time will put everything to rights." He has a great aversion to washing dirty linen in public, and never forgives one whose indiscretion causes a scandal.

Men Pass Away; monuments crumble into dust; and what remains of human life is human thought. The printed page is the embodiment of the thoughts of those who will soon think no more—but these printed thoughts will live, and energize those who follow in their footsteps, long after this generation shall have crumbled to dust, and individual bickerings have been forgotten. Let all, therefore, look to the future good when writing of the present.

At the Pennsylvania State Fair, Arthur Todd, T. C. Davidson, Dr. S. W. Morrison, J. F. Turner, and John Pyewell were awarded the prizes in the Apiarian Department, which was in charge of the Philadelphia Bee-Keepers' Association.

Early in the War, says the Boston *Budget*, a number of ladies sojourning at Washington undertook to organize an association called "The Order of the Bee," which bound its members not to purchase any imported goods until peace had been conquered. Mrs. Lincoln, on being asked to join, expressed much interest in the proposed reform, but said that she should like to consult her husband before signing. She invited the committee to accompany her to ask him, and after they had explained the project to Mr. Lincoln, who heard them with his usual patience, he asked: "But how is this to affect the public revenue, ladies? The Government needs just now every dollar that it can rake or scrape, and those very imported goods that you propose to dispense with form a large item of the receipts at the treasury. How do you propose to make up the deficiency which you will create?" This was a poser, and the proposed "Bee" did not "improve the shining hour."

Another Bee-Suit.—The Harrisburg *Telegraph* gives the following account concerning a suit against a bee-keeper there:

> An unusual case is being tried in the Cumberland county (Pennsylvania) court this week—that of testing by a jury whether the keeping of a large number of bees in a town or borough is a public nuisance or not. The case is from West Fairview, a small town on the opposite side of the river from Harrisburg. Two citizens had about 130 colonies of bees, and, as the summer was scarce of material such as the bees feed upon, they came in large numbers into the houses, stores, grape-arbors, and wherever there was anything for them to feed upon.
>
> The defense claimed that the rearing and keeping of bees was an industry, and as such could not come under the head of a public nuisance, and that suit could not be brought nor damages recovered for the keeping of honey-bees. The attorneys on both sides presented the opinions of several judges and the law points in the case, after which the court decided the case should be tried, and the testimony was received. But one case seems to be on record in the State, and that was tried before Judge Pearson in Dauphin county years ago, in which the defendant was ajudged guilty, had to pay a fine, and abate the nuisance.

A Correspondent in the London *Journal of Horticulture* gives the following as his opinion of Syrian bees:

> The Syrian bees have some good qualities, and but for their spitefulness, and tenderness during cold weather, would prove a good variety. Like the Cyprian crosses the Syrian ones crossed with Carniolan drones have proved themselves good honey gatherers, and, as is usually the case with crosses partaking of the nature of the male, they are therefore very docile. The pure Syrians, I observe, are capital sealers of their honey; they do not, like some varieties, have much loose honey in their hive. These good features palliate their stinging propensities, which I am inclined to think climatic influence will lessen.
>
> While manipulating several hives of pure Syrians lately, I was savagely attacked by them, but having my knife in hand I cut a piece of their honey-comb. Their propensity for honey being so great they at once ceased the attack and flew to the honey, when I was allowed to have my will while they had theirs. I have more to say about these Syrians, but wait till I have more data.

To give away a copy of "Honey as Food and Medicine" to every one who buys a package of honey, will sell almost any quantity of it.

☞ We want one number each of the BEE JOURNAL of August, 1866—February, 1867.

QUERIES

WITH

REPLIES by Prominent Apiarists.

Feeding Back Extracted Honey.

Query, No. 141.—How and when should extracted honey be "fed back" in order to procure comb honey?—Fancy Prairie, Ills.

It should be "fed back" in the spring, so as to aid brood-rearing.—C. C. MILLER.

I have never been able to make it pay, so I have given it up.—G. M. DOOLITTLE.

As soon as or a little before the harvest stops. Keep the bees active. —A. J. COOK.

This is still an unsolved problem. I can say this much, it should be fed rapidly and in warm weather.—W. Z. HUTCHINSON.

Why not get the honey in the section-boxes in the first place?—G. L. TINKER.

I would not advise feeding it back at any time, unless under most favorable circumstances, to finish nearly completed combs of honey. It will hardly pay to produce two crops to get one.—JAMES HEDDON.

I do not think a paying job can be made by so doing, but it should be done early in the season, and during the warm weather. So far as my experience goes, it is rather expensive, and exceedingly difficult. — J. E. POND, JR.

No matter how and when you feed extracted honey to convert it into the shape of comb honey, you will never make it pay. It would be better to work your bees for comb honey at the start, if comb honey is most profitable to you. But if you wish to satisfy yourself that it won't pay, you can get the best results by feeding the extracted honey right at the close of the early honey season.—G. W. DEMAREE.

Winter Bee-Passages.

Query, No. 142.—Is it desirable or requisite to make holes through the combs for bee-passages for winter use? Are passages made by the use of sticks laid on top of the brood-frames sufficient?—M. D.

I would answer "yes" to both questions.—A. J. COOK.

In very large combs it is possible that passages might be desirable, but with combs of ordinary size, a space over their tops is sufficient.—W. Z. HUTCHINSON.

To the first I say no; second, yes.—G. M. DOOLITTLE.

I never make winter passages. Possibly it might be necessary in some cases on account of deep combs or other cause.—C. C. MILLER.

We never make winter passages. We find that in ordinary winters there are enough warm days to allow the bees to change their place. Besides, in cold weather they do not always use those passages, and very often die near them, owing to the impossibility of moving.—DADANT & SON.

There is no need of holes in the combs. Split some corn-stalks of the proper length, flatten the ends and lay three or four pieces across the top-bars of the frames, and over all spread the quilt. This will answer all purposes without mutilating the combs.—G. W. DEMAREE.

No, I do not use a "stick," but a 3-16x⅞ bent thus ⌒. I have used it more or less for ten years. I am not sure that it does any good.—JAMES HEDDON.

With a shallow frame like the standard Langstroth, I do not think it is, unless the combs are attached to the bottom-bars and all openings are closed. Theoretically, passages over the brood-frames are all right, but in practice I find no bees walking over the top-bars in cold weather. I have discarded the use of sticks and all other devices on the frames in winter. I place strips of wood between the top-bars and shut off all upward ventilation.—G. L. TINKER.

I do not like to make holes through the combs, for the reason that it injures them greatly. I have found that a "Hill's device," or its equivalent (say sticks lain across the top of the frames), is amply sufficient for purposes of communication from one frame to another.—J. E. POND, JR.

Prevention of After-Swarming.

Query, No. 143.—Would not a virgin queen, or cell just about to hatch, introduced into a hive immediately after its colony had cast a first swarm, prevent a second-swarm by the young queen tearing down the cells before they were ready to hatch? Would not an advantage be gained by furnishing a queen a week ahead?—H.H.

I doubt if it would be a success.—C. C. MILLER.

It would be advantageous and is advisable to furnish a queen-cell ready to hatch, provided the hive does not already contain hatched queens as is sometimes the case.—DADANT & SON.

1. Probably it would. 2. Most certainly, though the colony is hardly able to do much at once after swarming.—A. J. COOK.

Not as a general rule, unless you destroy the queen-cells at the time you introduce the virgin queen or mature cell. If you neglect to remove all the queen-cells before introducing the virgin queens, you are likely to have the swarms a little in advance of the usual time, which is worse than letting them have their own way. As to your last suggestion or question, I think not. Nature seems to guide the bees safely in this respect.—G. W. DEMAREE.

Sometimes this plan will work and at others it will not, as an experience in having queens and cells destroyed by scores has proven. Besides in this locality there is no advantage in the above, but rather a disadvantage over allowing the cells left in the hive to hatch.—G. M. DOOLITTLE.

In the majority of instances, after-swarming can be prevented in the manner mentioned. Under ordinary management there would, in some instances, be an advantage, but none over the Heddon method.—W. Z. HUTCHINSON.

Generally it will; but if the flow of nectar is good it will as often fail, the bees not allowing the cells to be disturbed. I have had several such queens to lead after-swarms. It is of course an advantage where the plan succeeds.—G. L. TINKER.

In many cases it would. I prefer to prevent after-swarms by the method I have already given in the BEE JOURNAL. The plan you mention is best when you are desirous of changing the blood of your bees. I much prefer the just-hatched queen to the queen-cell.—JAMES HEDDON.

Try and see, is the best way to determine. Bees act so differently at different times and under different circumstances, that no one can tell exactly about what will be done. As a rule we may say yes, but we will find lots of exceptions. Of course it is an advantage to gain a week in furnishing a laying queen, provided the advantage is not lost by swarming again.—J. E. POND, JR.

Increasing the Number of Colonies.

Query, No. 144.—Which is the better plan when working an apiary for extracted honey, to make the increase by natural swarming or by division? If by division, when is the best time to do it in this locality, white clover being our surplus?—C., Cincinnati, O.

By division after the clover harvest is over.—G. M. DOOLITTLE.

By division in any case. We would rear the queen-cells from the very best colonies, and make the divisions from those colonies which would not be expected to furnish any surplus, if sufficiently strong. The best time is a little before the beginning of the clover crop.—DADANT & SON.

It makes little or no difference. The pleasure and convenience of the bee-keeper should decide. I would start nuclei and build up as rapidly as I could in the spring.—A. J. COOK.

I prefer natural swarming. If division is practiced, it would be best to divide the colonies before the honey harvest.—W. Z. HUTCHINSON.

My experience is that dividing is the best plan by which to get increase, whether working for comb or extracted honey.—J. E. POND, JR.

"Which is the best," depends very much upon the style of your hive, method of increase by division, and conveniences for hiving natural swarms. If you get no surplus except from clover, perhaps you had best make the increase after the surplus harvest. If they previously swarm, I should accept their increase so far as they do so.—JAMES HEDDON.

It depends upon the locality somewhat, and a great deal upon the honey seasons. As a general rule I prefer natural swarming. In your locality—which is nearly the same as my own—you must increase your bees (if you want increase) during the white clover honey harvest, and any way you may proceed to get your increase will cost you something in the way of loss of honey, and I have found that swarms made by division lose more time getting ready for work than do the bees when permitted to follow the natural laws of increase. Dividing should be done as early as the strength of the colonies will admit of it in your locality.—G. W. DEMAREE.

Position of the Apiary and Bloom.

Query, No. 145.—What would be the difference, if any, in the quantity of honey gathered from basswood or buckwheat if my apiary is right among the blooms, or 2½ miles from them?—H. S.

Very little if any, according to my experience.—G. M. DOOLITTLE.

I doubt if any one can give a reliable answer without trying the experiment with a considerable number of colonies apparently equal in both locations. He might then guess at the truth.—C. C. MILLER.

I do not know, but I think not very much. Bees fly very rapidly, and the exercise seems to invigorate. The way basswood honey comes in, even when the apiary is quite a distance from the forest, is amazing.—A. J. COOK.

The difference would be very great. We have had apiaries just two miles apart that would yield crops altogether different in quality and quantity, showing that the bees did not pasture on the same grounds. A hive whose bees will all travel 2½ miles for their crop, will soon become depopulated. We are absolutely positive of these facts from personal experience.—DADANT & SON.

No definite answer can be given. I have had bees gather honey at least ten times as fast from basswood as from buckwheat.—W. Z. HUTCHINSON.

Judging from other honey sources, I think an appreciably larger quantity of honey would be gathered in an apiary surrounded by bloom, than in one 2½ miles away from it.—J. E. POND, JR.

I think the colonies of bees near the bloom would gather at least twice as much as those located 2½ miles from a good field.—G. L. TINKER.

I do not think there is sufficient difference to pay you to move your bees to and fro each year, unless you are very favorably situated for such removal.—JAMES HEDDON.

In view of the fact that bees do not know instinctively to go directly to the nectar-bearing flowers in the vicinity of their homes, but must depend upon industrious search for profitable employment, it stands to reason that less time will be lost getting the whole force at work on the flowers if the latter are plentiful near the apiary, than would be the case if the pasture was 2½ miles away. Every young bee that enters upon the degree of "field worker," must learn where the best forage grounds are. These hints throw some light upon the perplexing question why one colony will sometimes beat another so badly, when all things, to the eyes of the apiarist, seem to be equal.—G. W. DEMAREE.

Rearing Queens.

Query, No. 146.—Is it a fact beyond reasonable question that queens reared by natural swarming are superior to those reared from eggs laid in worker cells?—S. H.

No.—C. C. MILLER.

No.—W. Z. HUTCHINSON.

As a rule, yes; still with proper care good queens can be reared by the latter plan.—G. M. DOOLITTLE.

No queens reared by swarming by division are just as good as those reared by natural swarming, provided they are reared in strong, healthy colonies.—DADANT & SON.

By no means; I doubt if it is a fact at all. I cannot see why the mere place of deposition, all other things being as favorable, should make the least difference.—A. J. COOK.

No; if the cells are not completed, some sealed and others just ready to seal up, before a swarm issues, the resulting queens will not be any better than can be reared in a strong nucleus. The conditions being favorable, any very strong colony will rear from just-hatching eggs as fine queens as by natural swarming.—G. L. TINKER.

No, indeed, nor never will it be.—G. W. DEMAREE.

Most certainly not. The whole question is theoretical. A queen reared from the egg in a full colony, well fed, if no honey is being gathered, is equally as valuable, and in many cases more so than the majority of those reared after a natural swarm issues.—J. E. POND, JR.

No; I have proven to my satisfaction that I can produce better queens at will than we get through natural swarming, as a rule. Much poorer ones can be artificially produced, and will be unless the work is done just right. I used to think differently, but we live to learn.—JAMES HEDDON.

☞ The New Jersey and Eastern Bee-Keepers' Association having accepted an invitation to meet with the Mercer County Board of Agriculture, of Trenton, N. J., will hold their semi-annual convention in the Grand Jury Room of the Court House at Trenton, N. J., on Thursday and Friday, Nov. 5 and 6, 1885, at 10 a. m. A full attendance of the members is requested. To all persons interested in our vocation, we extend a cordial welcome. The committee of arrangements have secured hotel accommodations at reduced rates.

WM. B. TREADWELL, *Sec.*

AMONG OUR EXCHANGES

Insect Fertilization of Flowers.

The following article is from the "Text-Book of General Botany," by Dr. W. J. Behrens, of Gottingen, Germany. Translated from the second German edition, for the *Popular Science Monthly*. Revised by Patrick Geddes, F. R. S. E. Edinburg: Young J. Pentland, 1885:

Of insects the Coleoptera, the Lepidoptera, the Diptera, and the Hymenoptera are the orders most concerned in the fertilization of flowers. More rarely, fertilization is effected by one or other species of Hemiptera, Neuroptera, and Orthoptera, but these are not of sufficient importance to demand further attention here. We shall therefore confine our remarks to the orders constituting the former group, and consider the various physical peculiarities by which insects belonging to them are enabled to effect the end in question. Such peculiarities chiefly take the form of special structures (invariably confined to the head), by means of which the insects are enabled to reach and abstract the honey contained in the flower. We shall also have to consider the organs concerned in the transport of the pollen.

The order Lepidoptera comprises many species of great importance in effecting the process of fertilization. Their large wings are well adapted for rapid flight from flower to flower, and their long proboscis enables them to reach the honey even when the nectary lies at the bottom of a very long and narrow corolla-tube.

The position assumed by the butterflies when engaged in abstracting the honey deserves notice. The wings, which during flight flutter to and fro with a rapid motion, are folded together perpendicularly over the body, in which position they are maintained so long as the insect remains poised on the flower. The butterfly is thus enabled more readily to escape detection by its many enemies (e. g. birds) than if, when resting, its brilliant wings were outspread. The under surface of the wings is usually of a much less striking color than the upper, and consequently does not prove so attractive. It even happens in many instances that butterflies only visit such flowers as are of the same color as their own wings, this precaution, of course, rendering detection extremely difficult. Many blue butterflies show a marked preference for blue meadow-flowers, while in the Alps the scarlet lilies and many of the orange-colored *Compositæ* are visited almost exclusively by butterflies of like hue. The moths, while extracting honey, do not assume a position similar to that of the butterflies, but hover over the flowers, their wings rapidly vibrating meanwhile.

The butterflies are excellent honey-hunters, because, as already said, their proboscis is very highly developed. It arises from the head midway between the eyes, and frequently exceeds the entire body of the insect in length. When not in use, it is kept coiled up like a watch-spring, but can be uncoiled at will, and thrust deep down into the nectary of a flower. The proboscis is hollow, and the honey is sucked up by the extreme tip.

In the butterfly the proboscis is the only part of the mouth that is fully developed. In many insects the mouth is very complicated in structure; but in the butterfly a number of the parts are almost entirely suppressed. The *labial palpi*, however, are usually pretty well marked. They are long and narrow, and are densely covered with hairs. To these hairs the pollen adheres, while the butterfly is engaged in sucking the honey, and by them it is carried to the stigma of the next flower which the insect enters.

The proboscis is usually from three to seven centimetres long, but in many tropical moths it attains a length of over twenty centimetres. It is by the great length of their proboscis that many butterflies are enabled to suck the honey from flowers having very long and narrow corolla-tubes, where it would be quite inaccessible to other insects. We need scarcely say that this feature is a great advantage to the butterfly order, for it means that they have the monopoly of the honey of flowers with a long, tubular corolla. The honeysuckle (*Lonicera Periclymenum*), is a good native example of a flower with a tubular corolla, in which the nectary is so situated as to be beyond the reach of the various bees and butterflies with short proboscides, likely to be attracted by it in the daytime. In this case the honey is entirely reserved for one of the evening moths (*Sphinx ligustri*), which possess a proboscis of almost exactly the same length as the corolla of the flower, *i.e.*, about forty millimetres. Attracted by their fragrance, the insect will hover over a cluster of flowers for a time; finally selecting one, it uncoils its long proboscis, thrusts it deep into the innermost recesses of the corolla, and, at its leisure, sucks the sweets denied to less fortunate members of its kind.

As fertilizers the beetles are not so important as the butterflies and moths. Only a small proportion pay regular visits to flowers, the greater number deriving their food from quite other sources. Many species which do frequent flowers only effect injury, devouring, as they do, some of the most important organs, *e. g.*, the stamens or the ovary. Others, however, and especially those whose small size admits of their creeping into the interior of the flower, frequently promote cross-fertilization, the viscid pollen adhering to the general surface of their body, from which it is brushed off by the stigma of the next flower they enter. Such flower-beetles as *Anthrenus*, *Meligethes*, *Malachius*, and certain smaller sorts, are extremely useful in this way.

In other species certain parts of the body are specially adapted for obtaining food from flowers. Thus, in the crown-beetle (*Cerocoma Schæfferi*), the middle of the antennæ are characterized by very strong and well-defined expansions, and are partly covered with hair. The palpi are very long, and the tongue is provided with two tufts of hair. These form together a large yellow crest on the anterior portion of the head. In midsummer this beetle is occasionally to be met with on the flower of the milfoil and corn marigold. If one of these beetles be caught and examined with a lens, the crest is usually found to be covered with a multitude of little yellow pollen-grains.

Among the long-haired beetles the *Lepturidæ* are specially well adapted for procuring food from flowers. The anterior part of the body (head and thorax) is narrow and elongated, so as to enable the insect to push its way pretty deeply into the interior of the flower. The mouth-parts are well developed, and stand straight forward from the head. The labium is usually hairy, and is thus extremely useful in extracting honey.

Compared with the beetles, Diptera or flies take a very prominent position as promoters of cross-fertilization. One great advantage which they have over the former class is their power of free and rapid motion. While the beetles are almost without exception compelled to adopt a slow mode of locomotion, the movements of the flies are among the most rapid known in the insect world. The number of native species of Diptera is very large; of those which frequent flowers we shall here consider but a few. One of the largest and most rapid flying of the Diptera is the humble-bee fly (*Bombylius major*). In this species the proboscis, which is situated on the anterior portion of the head, is of considerable length, so that the insect can reach the honey even when it is secreted some way down the corolla-tube. The manner in which *Bombylius* hovers over a flower while extracting the honey closely resembles that already described as characteristic of the moths among the Lepidoptera.

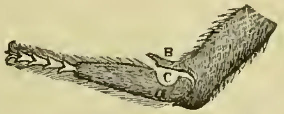
The *Empidæ* are easily distinguished by the peculiar formation of the head and proboscis. The latter is not directed forward, but almost perpendicularly downward, and the head itself is round; the whole thus bearing some resemblance to the long-beaked head of a crane. Many of the *Syrphidæ* are also honey-suckers. In structure they resemble the common house-fly more than the Diptera we have just considered. The posterior part of the body is mostly distinguished by a number of bright and dark colored bands and specks. As typical examples we may mention the large *Syrphus*, the allied *Eristalis tenax* and *arbustorum*, and the cone-fly (*Rhingia rostrata*). The latter may easily be recognized by its peculiar proboscis, which is kept coiled up under a small conical projection on the anterior part of its head. The sucking apparatus of the Diptera consists of a suctorial proboscis, resembling in a general way that of the common house-fly. It is tubular, short and thickened at its extremity, so as to form a disk, upon which are furrows and hairs. It is by means of this disk that the honey is taken up. The proboscis of the Diptera being almost always short and blunt, they can only extract honey from such flowers as have an open corolla. Insects of this order, then, need only be sought for on flat flowers, and there indeed they may be seen on any sunny day, rapidly creeping about, and greedily imbibing the nectar. The *Umbelliferæ* are special favorites with them, the nectar being found on the disk in the centre of the flower, which can very easily be reached. The Diptera are never found on flowers with long corolla-tubes. Only such forms as the humble-bee flies, *Syrphidæ*, *Empidæ*, and a few others, have a proboscis large enough to enable them to obtain honey from flowers of slightly tubular form. The proboscis of *Bombylius* is about one centimetre long. It is strong and stiff, cleft at the extremity, and thickly beset with hairs. Certain other structures entering into the formation of the mouth (*e. g.*, the lip, the mandible, and the maxillæ), almost equal it in length. The cone-fly (*Rhingia rostrata*), in common with many other broad-headed flies, possesses the power of coiling up its proboscis, the length of which is about twelve millimetres. That anterior portion of the cone-fly's head is prolonged forward so as to form a sort of beak. When not in use, the proboscis is kept coiled up beneath this prolongation. When required, the extremity of the proboscis is first inclined downward, and the organ is next suddenly shot out to its full length. When fully extended the proboscis projects far beyond the beak-like anterior portion of the head. The extraction of the honey is effected by means of the cleft tip. The cleft extremity is used in sucking.

We have already seen that many flowers are exclusively visited by Lepidoptera, their honey not being within the reach of insects belonging to any other order. Such, for instance, are honeysuckle and privet. Very few flowers, however, are frequented solely by Diptera; for the length of the proboscis, even in those Diptera, in which it is best developed, is attained, if not surpassed, by many of the Hymenoptera (humble-bees, honey-bees, etc.). The latter class, therefore, share with the Diptera the privilege of frequenting certain species of flowers. We shall now pass on to consider them for a little.

Of all insects the Hymenoptera (bees and wasps) are, on account both of their physical structure and their peculiar instincts, the best adapted for the task of extracting and collecting honey from flowers. The species comprised in this order, and more especially the bees, are all characterized by a superior share of intelligence, not only as honey-hunters, but in many other respects. Their mode of living together in large, well-ordered communities, presided over by a queen, has long been a subject of marvel and of study. Out of the wax, which exudes at the joints of the abdominal segments of their bodies, they construct a "comb," consisting of a number of united cells. The cells, when finished, are filled with honey or "bee-bread," a substance composed of a mixture of honey and pollen. This bee-bread forms the food upon which the young larvæ are reared.

The bees are the greatest promoters of cross-fertilization, not only among the Hymenoptera, but among all insects whatsoever.

Over two hundred species of our native bees (*Apidæ*) are known as frequenting flowers, the most familiar being the common honey-bee. The task of collecting and storing honey is performed exclusively by the neuters (workers). The humble-bees do not fall far short of the honey-bees in the assiduity with which they frequent flowers, and they surpass the latter in size and in length of proboscis. Our most common species are the earth humble-bee (*Bombus terrestris*), the garden humble-bee (*Bombus hortorum*), the moss-bee (*Bombus muscorum*), and the stone-bee (*Bombus lapidarius*). Very similar to the humble-bees in appearance and structure are the hairy-bees. They are readily distinguished, however, as we shall presently see, by the formation of the hind-legs. There is also a sand-bee (*Andrena Schrankella*, a species representing one of the largest genera), which may be seen in early spring on catkins and other spring flowers.



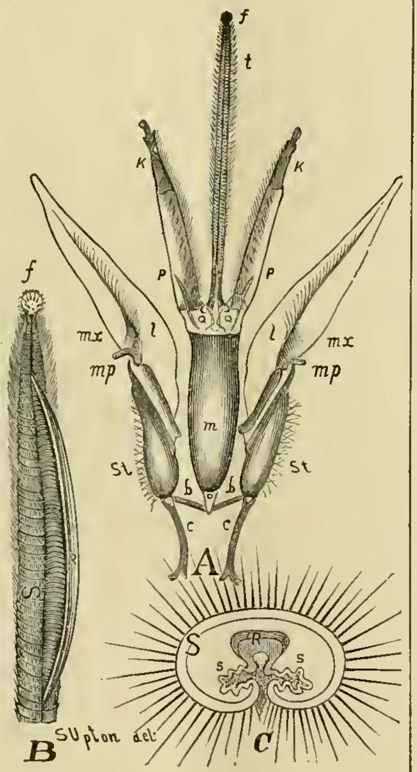
Anterior Leg of a Worker Bee.

We have already said that, over and above their high intelligence, bees are remarkable for having certain points of their body specially modified in connection with the acquiring of honey and pollen. We will now further consider the structures concerned in effecting this end, viz., the *suctorial apparatus* and the *apparatus for collecting pollen.*

The suctorial apparatus is in most bees developed in very great perfection. In many the proboscis is of considerable length, in some cases being as long as the body. It consists of the long vermiform tongue (*f*) (as in the butterflies), the upper surface of which is mostly well provided with oblique rows of long bristles. The maxillæ (*l*) and part of the labial palpi (*k*) are modified into flat, leaf-like, linear processes, which are arranged around the tongue (*f*), and thus complete the suctorial proboscis. While, therefore, the suctorial apparatus of the butterfly consists simply of a coiling or suctorial tongue, it must be noted that in the bee other parts are concerned in the formation of the tubular sucking apparatus. In many bees, besides, the tip of the tongue is peculiarly modified, so as to enable the insect to taste the honey before beginning to collect it, an arrangement by which honey of unpleasant taste can be rejected.

APPARATUS FOR COLLECTING POLLEN.

Of all insects the bees alone have certain parts of their body specialized for the collection of pollen. The structures developed for this end are in their way perfect. They may be found either on the ventral surface of the posterior portion of the body or on the legs. Accordingly, bees may thus be divided into two groups: 1. Bees having structures for the collection of pollen on the ventral surface of the body; and, 2. Bees having such structures on their legs. To the first group belong the mason-bees (*Osmia*) and the leaf-cutter bees (*Megachile*). In these species the ventral surface of the abdomen is furnished with long, stiff, retroverted hairs, by means of which the pollen is brushed from the anthers as the insect passes in or out of the flower. The grains get entangled among the hairs, from among which the bee afterward dislodges them by means of its legs.



Tongue of the Honey-Bee.

This contrivance is admirably adapted for obtaining pollen from flowers having a flat corolla, but not for such as have the anthers concealed in a deep tube. Our most highly developed bees (humble-bees, honey-bees, etc.) have, therefore, an apparatus suitable for collecting pollen from flowers of all shapes.

The pollen, once removed from the antlers, is next transferred to the hairs, or to the surface of the tibia, to which, being viscid, it readily adheres. After the process of collecting has been carried on for some time, the pollen forms thick yellow masses, which completely envelop the legs. Laden with the fruits of its toil, the insect wings its way homeward, and deposits them in the bee-hive.

While our native flowers are many of them entirely dependent on insects for the transference of pollen, the process of cross-fertilization is, in many tropical species, always effected by birds, which visit the flowers on account of their nectar.

In America the humming-birds and in Africa the honey-eaters are the great promoters of cross fertilization. The honey-birds are found in the tropical regions of Africa, Asia, and Australia, while the humming-birds belong to tropical and South America. The former suck the honey with their long, tubular tongue, which is brush-like at the tip. Their relations to flowers have not yet been sufficiently investigated, but a good deal is known respecting those of humming-birds.

The humming-birds are small (the largest species attaining to about the size of a swallow, the smallest not much larger than a humble-bee) and of delicate structure. They are famed for their magnificent plumage, which almost always displays metallic tints. Their flight does not resemble that of our native birds, being maintained by rapid vibrations of the wings, which enable them to remain apparently motionless in one spot for a considerable time. Their passage from place to place is effected by a series of rapid darts, almost too swift for the eye to follow. Their flight might perhaps be best compared to that of a moth. Like these insects, the humming-birds hover long over a flower, sipping the honey with their long, thin bill, and in other particulars also—in color and form, for example—humming-birds and moths offer some remarkable parallels. Representatives of each may be found, to distinguish between which needs a close scrutiny, and which, when on the wing, might perplex the best observer. To all outward appearance the humming-birds are birds when at rest, but insects when in motion.

We thus see that in the tropics there are not only wind and insect fertilized flowers, as with us, but also certain which are bird-fertilized, *i. e.*, plants in which the transference of the pollen is effected by humming-birds.

Convention Notices.

☞ The Central Michigan Bee-Keepers' Association will meet in the Pioneers' Rooms in the State Capitol, at Lansing, Mich., at 9 a. m., on Nov. 12, 1885. All who have bees or are interested in bee-culture, are invited to attend. E. N. WOOD, *Sec.*

The Central Illinois Convention will be held at Jacksonville, Ills., on Wednesday and Thursday, Oct. 28 and 29, 1885.
CHAS. DADANT.

CORRESPONDENCE

Explanatory.—The figures BEFORE the names indicate the number of years that the person has kept bees. Those AFTER, show the number of colonies the writer had in the previous spring and fall, or fall and spring, as the time of the year may require.

This mark ⊙ indicates that the apiarist is located near the centre of the State named: ♂ north of the centre; ♀ south; O+ east; +O west; and this ♂ northeast; ⌐O northwest; O⌐ southeast; and ♀ southwest of the centre of the State mentioned.

For the American Bee Journal.

The Statistics of the Honey Crop.

17—G. M. DOOLITTLE, (40—95).

How slow we as bee-keepers are to work by united action to secure what would be of benefit to us all. On page 649 of the BEE JOURNAL for 1884, I gave a plan by which I thought we might in September, 1885, know the relative amount of the crop of honey for this year in the United States, and requested that if the plan I gave was not thought advisable, some other plan might be originated which would meet the approbation of all; for all realize the importance of such a report, as has been shown by the many efforts in that direction. But however much I had hoped and desired, aside from the sanction of the plan by the Editor, I have not seen a word farther in regard to the matter. To be sure we have gained some valuable ground, in that we now know in what part of the State each correspondent of the BEE JOURNAL lives; but as far as any definite knowledge regarding the crop of honey in the United States is concerned, we are no better off than we were a year ago.

When the Bee-Keepers' Union was proposed, I hoped by this plan to get all the bee-keepers united, and after throwing our united influence to our advantage in the Freeborn suit, we might then through this same Union get at the desired statistics regarding the honey crop. But alas! out of the 500,000 bee-keepers of America, only about 250 have seen fit to enroll themselves as favoring a plan of united action to defend our beloved pursuit from disgrace. No wonder Mr. Heddon thought my idea of getting anything out of the Union but defense, was out of order. When I spoke of using the Union for other purposes, I did it upon the basis 500,000 members, and not on less than 300! Shame on you fellow bee-keepers! Arouse from your lethargy and let us up and to work! Join the Union to show that you are one of us, if for nothing more, and then in the near future we will show how this Union can be made of great value to each one. What would you have given on Sept. 1 to have known the amount of honey in America, so you could have disposed of your crop intelligently? I would have given $25, at least, for that knowledge alone, and much more to have known that every bee-keeper in the land was one of the Union, so he would not get crazy over his crop of honey, and rush it into market prematurely to the injury of the whole fraternity.

To show that I have grounds for the above, I wish to give two illustrations: In a neighboring city honey held steadily at 16 cents per pound for No. 1 comb honey, till within the past two weeks when quite a large producer, who admitted that he had not read the bee-papers during the summer, became scared over what he supposed to be an immense amount of honey in the country (judging from his own good yield), and rushed his whole crop in at 12½ cents per pound. The result is that the market is flat, and some grocers assert that they will yet buy honey at 10 cents per pound before the year 1885 is past.

Another producer having honey by the 10,000 pounds, sold the whole lot to a merchant in one of our large Eastern cities at a price below the cost of production, giving as a reason for doing so, that there was an enormous crop of honey in the country, and this with these words found on page 579 of the BEE JOURNAL: "The harvest is past; the summer ended; but the bee-keepers generally say that it was the poorest season for honey that they have known for many years," waiting for him to read.

Again, reports from Boston say that on account of the large crop in Vermont, which is being forced upon the market, honey is likely to become a drug there, and this with Western cities and villages writing East for honey. Now had some plan been united upon as I expressed a year ago, by which all could know the state of affairs really existing, this injury to the fraternity would have been warded off and honey kept at a uniform price throughout the country, thus enriching the bee-keeper instead of bringing discouragement upon him.

As I proposed in that article found on page 649 of the BEE JOURNAL for 1884, to report for Central New York in 1885, I will now do so to show how easily the plan there given works. At a cost of a few cents for postal cards, and a few hours time in writing, I mailed a card to several bee-keepers in each of the the counties embracing Central New York, telling them of the yield in this county, and requesting that they impart the same information in return. To these about two-thirds replied, the other one-third not having time, or perhaps thinking they had gained so much knowledge free, did not answer. This part of it matters not, however, as enough did reply to show that the average yield of comb honey in the ten central counties reporting, is 66 pounds per colony, spring count; the lowest county reporting an average yield of 30 pounds, and the highest 100 pounds.

Now, if we call, as I did last year, 50 pounds per colony as the average yield, it will be seen that Central New York has 16 pounds per colony over or about one-third above the average yield. The rest of the State I cannot vouch for, but I am of the opinion that the bees in the southern part of the State have not done as well, so that probably about 60 pounds would be about the average yield per colony throughout the State. Vermont has a still larger crop, while reports from the northern part of Ohio and a part of Michigan, speak of a good yield. The rest of the United States generally report a light crop, with almost a total failure in California. So it will be seen that if the above is correct (I cannot vouch for any of it except Central New York, the rest being gotten from correspondents here and there), there is no need of bee-keepers becoming alarmed and rushing honey upon the market at ruinous prices.

Now bee-keepers, I again call upon you to take hold of this matter of vital interest to all of us, and see if we cannot, before another year rolls around, have a reliable report from every State in the Union, in time to be of use to us in marketing our honey-product.

Borodino, ⊙ N. Y.

For the American Bee Journal.

North American B. K. Society.

H. D. CUTTING.

Mr. W. Z. Hutchinson and myself met in Detroit on Oct. 16 and 17 to complete arrangements for the next meeting of the North American Bee-Keepers' Society. We succeeded in securing greatly reduced rates at the Antisdell House, one of the first-class hotels, located on Michigan Avenue, and about 20 rods from the City Hall, in the very heart of the city. The regular rates are $2 per day, but in anticipation of a very large attendance they will receive all attending the convention at $1.25 per day. The Antisdell Bros. have the reputation of keeping some of the very best hotels in the West, and I can assure all who will attend the convention that they will be well received and taken care of.

With the assistance of Mr. E. B. Rose, of Detroit, we secured the use of what is known as "Red Men's Wigwam"—a good Hall directly opposite the Antisdell House. The Hall is new, well furnished, carpeted, etc., and should it be stormy weather it will be quite an acquisition to the success of our meeting to have a Hall so near the hotel.

We called on Mr. Geo. E. King, the Secretary of the Michigan Passenger Railroad Association, who received us very cordially, and extended to us every courtesy. He will give us reduced rates on all railroads in Michigan, on all tickets sold from Chicago, Ills., and Buffalo, N. Y.; and from correspondence already begun, we are in hopes to secure the same rates from New York City and other points in the East, and also from the Far West. Due notice will be given in all the bee-publications as soon as final arrangements are perfected, and if persons wishing to attend the convention at Detroit on Dec. 8, 9 and 10, will write to Mr. W. Z. Hutchinson, Rogersville, Mich., they will receive by return mail a certificate to be filled out by the railroad agent where they procure their ticket; and on their return home this certificate will entitle them to a ticket by paying one-third the regular fare.

Now that all arrangements are so nearly completed, let every one prepare to come to Detroit, on Dec. 8, 9, and 10, and make this meeting one grand success ever to be remembered by every apiarist in the United States and Canada.

Clinton, Mich.

Selected.

Ancient Opinions on Beeswax.

FRANCIS HUBER, 1793.

Since the time of Reaumur and De Geer, whose works have inspired a general taste for entomology, great advances have been made in this science; all its branches are extended, and the history of bees, in particular, has been enriched. Schirach and Riem have opened a new path; and, perhaps, we have ourselves contributed to clear it of the prejudices which clogged its progress, by establishing the facts announced, in a more rigorous manner.

Some observations, also, have been published in other countries, but so inaccurately that they would sink into oblivion did we not endeavor to support them by facts.

Naturalists have principally directed their attention to wax, and chemists likewise have attempted an analysis of it. But the result of their labors presents so little coincidence, as to prove the insufficient discussion of the subject and that it requires new examination.

When M. Bonnet wrote, it was the general opinion that the pollen, farina or dust of the stamina of flowers, was converted into wax; and it is interesting to peruse his details of its collection, the manner in which the bees load themselves, and how they store it up for preservation. All these facts, and the utility of the farina, had been scrupulously observed by Reaumur, Maraldi, and other learned men; but is this substance truly the elementary principle of wax?

A Lusation cultivator, whose name has not reached us, observes, that although it had been previously supposed that wax is discharged from the mouth, it actually comes from the rings of the abdomen; and that this is evident by withdrawing a bee from the cell where it works in wax, when the wax in the form of scales appears by the extension of the body. In the year 1793, I was greatly astonished at finding scales of a substance analogous to it under the rings. They exhibited its real characteristics on being applied to the flame of a taper, and I showed them to some of my friends.

Workers alone have the property of secreting wax; scales of it, ranged in pairs, are contained in minute receptacles under the lower segments of the abdomen, and situated to the right and left of the angular projection. The conformation of the same part of queens and males is very different, below the rings of which no scales exist.

Nothing but what is common to the abdomen of wasps and many other hymenoptera appears externally in that of the bee, being half segments partially covering each other. But they are not flat below as in most analogous insects, for the abdomen of the bee is traversed by an angular prominence. By gently drawing out the abdomen, the concealed parts are disclosed.

What should be considered the base of each ring, because it adheres to the body of the insect, occupies at least two-thirds of the segment, and is of a yellowish white, soft, transparent, membraneous substance. It is divided into two by a small horny prominence corresponding exactly with the horny projection of the abdomen, and forms two areas bounded by a solid edge on the surface of the membrane. The scales of wax are deposited in these areas, and assume the same conformation; being of an irregular pentagonal figure. Only eight scales belong to each individual bee, for the first and last ring, constituted differently from the others, afford none. Their size decreases with the diameter of the rings whereon they are molded; the largest are under the third, and the smallest under the fifth. All are not alike in every bee, for a difference is perceptible in consistence, shape and thickness; some are so thin and transparent as to require a magnifier to be recognized; or I have been able to discover nothing but speculæ similar to those of water freezing.

Neither the speculæ nor scales rest immediately on the membrane; a slight liquid medium is interposed, serving to lubricate the junctures of the rings, or to render the extraction of the scales easier, as otherwise they might adhere too firmly to the sides of the receptacles. Finally, I have seen the scales so large as to project beyond the rings, being visible without stretching the segments, and of a whitish yellow from greater thickness lessening their transparency.

These shades of difference in the scales of various bees, their enlarged dimensions, the fluid interposed beneath them, the correspondence between the scale and the size and form of the receptacles, seem to infer the transudation of its substance through the membranes whereon it is moulded.

I was confirmed in this opinion by the escape of a transparent fluid, on piercing the membrane, whose internal surface seemed to be applied to the soft part of the belly. It coagulated in cooling, when it resembled wax, and again liquified on exposure to heat. The scales themselves also melted and coagulated like wax.

In prosecuting my experiments further on the analogy of the two substances, I found the following: 1. That scales, thrown into spirits of turpentine, dissolved and disappeared before reaching the bottom of the vessel, without rendering the fluid turbid. But an equal quantity of the spirit could neither dissolve some of the whitest fragments of worked wax taken from new combs so quickly nor so entirely. Many particles remained suspended among it.

2. Taking two vessels of sulphuric ether, I appropriated one for scales from the rings of bees, the other for wax from their combs, equivalent in weight to the scales. Scarcely had fragments of wax touched the ether, when they divided, and were precipitated in powder to the bottom of the vessel; but the scales were preserved entire, and only lost their transparency, becoming a dull white. No change ensued in either vessel during several days. On evaporating the ether from each, a thin stratum of wax was found on the glass. Frequent repetition of this experiment presented the same result; fragments of the combs always were reduced to powder; the scales, on the contrary, were not broken down; and after the lapse of several months, only a very small portion of them had been dissolved by the ether.

I thence concluded that the wax of the rings was less compound than that made into cells, since the latter dissolved in ether, while the former remained entire, and as the one dissolved but partially in the spirits of turpentine, whereas the other was held in complete solution.

If this substance lying under the rings be truly the elements of wax, it undergoes some preparation in leaving its receptacles, and the bees are capable of impregnating it with matter, imparting the whiteness and ductility of real wax. Hitherto we are acquainted only with its fusibility, but such being the chief property of the wax of the combs, we cannot doubt that the scales enter their composition.

For the American Bee Journal.

Des Moines County Convention.

The Des Moines County Bee-Keepers' Association held its fall meeting in the Grand Jury Room in the Court House at Burlington, Iowa, on Aug. 25, 1885, which was called to order by the President at 10 a.m. The attendance was small on account of the busy time and the bad weather, but nevertheless we had quite a good meeting. The convention decided to make as good a display at the County Fair as the poor season would admit of.

Nine members reported 124 colonies, spring count, 217 fall count, and 591 pounds of honey as the amount obtained previous to Aug. 25. This was considered a poor showing of honey from so many colonies. Various plans of feeding, "doubling up," etc., were discussed so as to be able to save part of our bees at least; but heart's-ease and Spanish-needle has come to our aid since then and yielded honey sufficient to enable us to save our bees, as they are now in fair condition as regards stores. Bees have been working on the asters for about four weeks, when warm enough to fly.

The display of bees, honey and bee-keeping implements at the Fair was very good, and attracted a great deal of attention. The premiums were quite liberal. Mr. Geo. Bischoff received $29 in premiums, besides several diplomas, on his several exhibits. John Nau secured $19 in premiums, besides diplomas, and Mr. W. H. Smith obtained $11.

JNO. NAU, *Sec.*

Country Gentleman.

The Maryland Sensitive-Plant.

G. W. D.

My bees are particularly fond of working upon this plant (the *Cassia chamæcrista*), whose efflorescence begins early in August and extends to Sept. 20, and here it is their chief dependence during the second honey harvest. Sandy fields are densely covered with it at this season. But, strange to say, the bees do not collect the honey from the showy yellow flowers, but from glands or rather cup shaped nectaries, one upon each petiole (leaf-stalk). These nectariferous glands are open (concave on top), cup-shaped, sub-pedicelled (having a short stem, though hardly noticeable), very minute, and contain a clear honey easily seen shining in all the matured crops. This was the first case of nectaries occurring upon petioles instead of in the corollas (as we find in nearly all flowers), that came under my observation ten years ago, though others have glands upon their stem leaves (Passion flower), but not honey-secreting ones, and several again have them upon the margin, and even in the cellular tissue, of their leaves (aromatic glands of lemon, geranium, and others). The bees are so ravenous after this honey that I have actually seen them run over each other in their eagerness to reach these nectaries first.

Their pretty papilionaceous flowers are rarely touched by insects. I never saw a honey-bee upon them, though I once detected a carpenter-bee, seemingly at work; since they are destitute of a nectary and their pollen, dry and scant, showing that the sense of smell in insects is superior to that of sight, or else they have a discriminating power of which we know nothing. They work upon them until past mid-day—much longer than upon buckwheat, which would indicate that the honey does not evaporate so quickly. I find that bees do most of their honey-collecting during the first half of the day, a perceptible lull always after 12 m., with a slight increase after 3 p. m., which would show that the more direct rays of the sun dissipate it, or else the bees gather it all. The one great exception is the pulse family (*Leguminosæ*), and their peculiarly shaded nectaries prevents this. I have known bees to work upon black locust (*Robinia rudocassia*) long after sundown, and until quite dark. Cloudy days lengthen the gathering time of all open corollas or rather unshaded nectaries. The secretion of nectar—which can hardly be called honey until evaporated, for it is a bland, watery liquid and thereby thickened into honey by the bees—probably goes on chiefly at night in all fresh corollas, and as these fade, the secretion decreases, and ceases altogether at a certain period, being only indirectly essential, through the aid of insects, fructification or rather conception.

These plants grow luxuriantly upon sandy land in Northern Maryland, and even the poorest sandy soil will produce a dense mat of them from one to three feet high. Belonging to the pulse family, they will grow upon the above soil like the cow and black-eye pea, having a long top-root like clover, and are probably quite as enriching as either of the above peas; therefore they are excellent to turn under as an improver of the soil, though better if left to shade the soil. Quails, called here "partridges," are very fond of the seeds which are enclosed in legumes, resembling those of the black locust, hence called partridge-pea. During cloudy weather and at night, or when broken or pulled up they fold their leaves like the true sensitive-plant which they resemble very much. Cows eat them when green or in full bloom, though sparingly.

Annapolis,⊙ Md.

For the American Bee Journal.

Manitoba Convention.

At an enthusiastic meeting of bee-men that took place in Winnipeg, on Wednesday evening, Oct. 7, 1885, an organization was formed called the "Manitoba Bee-keepers' Association," with Chief Justice Wallbridge President; Thomas Collins, of Portage la Prairie, Vice-President; and J. Hammond, of Winnipeg, Secretary.

In the course of the evening the President gave a most interesting discourse, describing his method of cellar-wintering, by which he had never lost a single colony of bees. The main features of the system consist in giving ample ventilation from below and plenty of porous material above to absorb the perspiration, which otherwise would condense and fall back on the top of the bees, causing thereby all the evils which so often end in the destruction of the inhabitants of the hive.

It was reported that Mr. D. D. Campbell, of Manitou, whose beautiful exhibit of comb honey attracted so much attention at the exhibition, had brought his bees through the past severe winter in splendid condition by adopting similar measures as those described by Chief Justice Wallbridge.

It was resolved that all communications in connection with the Association should be addressed to the Secretary, at 859 Main Street, Winnipeg.

J. HAMMOND, *Sec.*

Prairie Farmer.

Shiny Bees—Autumn Management.

MRS. L. HARRISON.

An unnamed disease has decimated some apiaries this season. Bright Italian colonies have been carrying out black, shiny bees with pointed bodies, during the entire season. This malady has appeared twice in my apiary, and I failed to discover the cause. There was abundant brood, and the affected colonies, so far as I could see, differed in no respect from the healthy ones. If one of the shining blacks got away from its captors, and re-entered the hive, it was immediately marched out again. These shiny bees would come out on the alighting-board, apparently in distress, with their wings extended, and a tremulous motion to their bodies. A change of queens might remedy the difficulty, whatever it is.

We had a very hard frost on Tuesday night (Oct. 5); ice was seen in some places. This closes the honey season. I have removed what little surplus honey there was, and find all colonies supplied with winter stores. The bees are remarkably good-natured for this time of the year, and the colonies are usually populous. If the weather should come off warm, they will forage around, but it is not to be expected that much honey will be gathered.

I shall examine each colony carefully, to ascertain its exact condition for wintering. Where I find one with its honey scattered through the hive, I shall confine the inmates to the combs best filled, letting them carry home the honey from the others. Combs containing little honey I shall put in the cap, leaving a small opening for the bees to come up. If they do not work upon the combs at once, I will uncap some of them. The smell of honey is more apt to start robbing than is that of syrup, and I shall use caution against it by throwing an old quilt or something similar over the hive. As fast as the combs are clean and dry, I shall store them away for use another season.

Peoria,⊙ Ills.

For the American Bee Journal.

Experimenting in Wintering Bees.

MAHALA B. CHADDOCK.

In his answer to Query, No. 128, on page 629, Mr. J. E. Pond, Jr., says: "It hardly pays to experiment in wintering, that is, to do so by leaving the old beaten track that has been traveled with comparative safety for many years." Just so; but which beaten track shall we follow? Mr. Heddon now has a sure way to winter bees; shall we do it in that way? Or had we better try Mr. Doolittle's plan? Or whose shall we try?

Near Lewistown, Ills., lives Mr. Rufus Porter, a successful bee-keeper, and a successful winterer of bees. He contracts no brood-nests, feeds no syrup, winters his bees on the summer stands, and has no chaff hives. He takes off the honey-department, and lays on top of the brood-nest a little frame to keep the cloth from fitting tight to the frames. He then makes a box just the size of the honey-department, without top or bottom, nails the coarsest kind of coffee-sacking on it at the bottom, fills it about 3 inches deep with wheat chaff thrown loosely in (not packed down at all), puts on the cover that belongs to the (Langstroth) hive, and lets them alone until spring.

His hives face to the south, and he very rarely clears the snow from the entrances (which he contracts to ⅜x3 inches)—never, unless there is a sudden thaw, and the snow prevents the bees from flying out.

Now, if I used Langstroth hives I should do just as Mr. Porter does. But mine are Gallup and Simplicity hives, and there is no such cover to either of them. I am going to experiment a little the coming winter; not because it will prove anything if I do succeed, but just because I thought of it myself.

Vermont +○ Ills.

For the American Bee Journal.

Controlling the Honey-Bee.

M. PETER.

Has the honey-bee the right to gather honey or other food wherever it can? It has; for the Creator so designed it, and man has no right to limit it in its course. For, if he had the right, he would have the power so to do. We have no power to teach it where to go or where not to go. The natural limit for the bee is as far as it can go, which is a circuit of nearly six miles or more in diameter. Every open space in this circuit is its domain. If we open our doors, it has the right, like the sunshine, to go in.

If the owner possessed that amount of land, his bees need not gather from his neighbor's fields; but only a few can own that amount. The earth is not for the rich alone, but for all who live upon it. A law that required us to be rich enough to own that amount before we kept bees, is unjust.

If the owner of bees owned less than about six square miles of land, he would have to fence his land, if the law required us to restrain bees from going on the lands of a neighbor. A fence to restrain bees would nearly reach to the clouds, hence unreasonable.

To illustrate a bee's instinct: When 14 days old it can go alone to the fields in search of food, fertilize seed, gather honey or pollen, return to its home and store its treasure, as far as we know, as perfectly the first time as at any other.

We have no skill to teach the blood how to circulate in the veins. We may, by force, hinder its free circulation. Our power or force to hinder does not make it right to do so; for science tells us that when we hinder the natural course of the blood, we hasten our bodies into the grave. We know this, or those who inquire may know it. We may not know the full design of the bee, and it is best not to look into the dark.

Trumbull Co.,♂ O.

For the American Bee Journal.

"Sunny Florida"—The "Union."

7—HARRY G. BURNET, (5—25).

While our fellow-bee-keepers at the North are packing their bees for winter, feeding sugar syrup, and otherwise trying to avoid winter losses, we, at the extreme South, are about entering the season of harvest, which continues without interruption from November until June. For my part, after trying it three years in Iowa, and part of a season with Mr. Heddon in Michigan, I gave up trying the "winter problem," and hied myself off to "Sunny Florida," where such things are unknown; and here, under the palms and moss-hung live-oaks I have started an orange grove and apiary, in a small way, it is true; but it will "grow up with the country," I hope. I find it much pleasanter to spend the winter in extracting honey, hiving swarms, making garden, eating oranges, fresh strawberries and vegetables, than to "shiver out" a winter in Iowa.

I would like to make a suggestion to the readers of the BEE JOURNAL, as follows: Since the publishers have seen fit to reduce the price of the BEE JOURNAL to one dollar, let us, in renewing our subscriptions, send in two dollars as of old, with an added quarter, and thus have all subscribers to the BEE JOURNAL members of the Union. That is what I am going to do, and am trying to get up a club of subscribers on the same plan. The Union is to be of use only by receiving the *united* support of bee-keepers of the United States. In these hard times the above plan, I think, will make it *seem* easier to join the Union.

Alva,♀ Fla., Sept. 30, 1885.

[This is a good idea, and we hope it will be acted upon by all. The "Union" ought to be a well-supported and efficient organization for the defense of our chosen pursuit.—ED.]

For the American Bee Journal.

Progressive Convention.

The Progressive Bee-Keepers' Association met in the G. A. R. Hall at Macomb, Ills., on Oct. 15, 1885, at 2 p.m., the President, A. W. Fisk, of Bushnell, occupying the chair. After hearing the minutes of the last meeting, the audience was entertained by a song entitled, "Come where the Lilies Bloom," which was sung by the choir, consisting of Mr. J. S. Gash, Mr. Keach, Miss Cora Tullis, Miss Anna Stewart, and Mrs. Geo. Kerman.

An address on apiculture by Rev. E. L. Briggs, was then delivered. He said: "We cannot expect everybody to believe as we do; however, two things must go together to make a success in business—'muscle and brain.'" He gave a full description of bee-keeping in all its branches, and for all seasons of the year. He said: "Bee-keeping is no small business, but of great dimensions, and covers a great field of labor. We cannot expect to make a living by keeping only one colony of bees, neither can we do so in keeping only one cow or one hog; but any man or woman with a quarter of an acre of ground, well stocked with bees, can compete with a farmer having 160 acres of land. A beginner should first buy a good book on the subject, and keep only pure Italian bees. Also, take a good bee-paper, and take extra care of the bees in winter, either keeping them in a cellar kept at a temperature of 50°, or packing them in chaff on the summer stands. If kept in a cellar, give them an out-door flight as early in the spring as possible, then return them to the cellar again till warm weather has come to stay." He closed by saying, "When you get all the bees you need, then stop and work for honey only, for it does not pay to produce bees for sale."

Miss Tullis then sang a solo entitled, "Spring Flowers."

After the song, Mr. C. P. Dadant gave the following in answer to questions: A 10 frame Langstroth hive is small enough, and he prefers a larger one. A hive should contain 66,000 cells for the queen to lay in, besides as many more in which to store honey. He was not so well posted on wintering bees, but he thought that chaff packing on the summer stands, or a good cellar, was necessary. Bees are not dormant in winter. They should be very strong in numbers, and have plenty of well ripened honey if we wish them to winter successfully. He considers the reversible frame as working against nature, and thinks that extracted honey is the most profitable to produce. The life of a bee is 40 days in the working season, but in winter they live longer. A queen will live from two to five years. Chaff or some porous packing is necessary over the frames in winter. It is profitable if bees can fly every three weeks in winter. He said that the purest bees come from Italy. Climate has a great deal to do with bees. He said that "spring dwindling" is caused by cold, wet weather at that time of the year.

Mr. E. L. Briggs said that "spring dwindling" was often caused by too early breeding.

The convention then adjourned to meet at 7 p.m.

EVENING SESSION.

The convention was called to order by the President at 7 p.m. First on the programme was a song by the choir, entitled, "Whip-poor-will."

Mrs. Staley, of Adair, read an interesting essay on "Practical Bee-Keeping." She referred to the losses of the past winter, and said: "We must not be discouraged by this, but press forward again if we would make a success." She referred to bees as acknowledging female supremacy; in fact, her essay all the way through showed deep study and a thorough knowledge of apiculture.

Mrs. Kerman and Miss Tullis then sang a duet, entitled, "Murmuring Sea;" then came the election of officers, which resulted as follows: J. M. Hume, President; S. H. Moss, Vice-President; Mrs. Staley, Treasurer; and J. G. Norton, Secretary.

Rev. E. L. Briggs again addressed the convention, and dwelt somewhat on what the essayist said of despondency. Although the losses of the past winter were great, there is no business without loss; we still have our hives, frames and honey on hand. He stated how he had left his bees to a man to take care of, and all were lost; but by buying more colonies he had made a large profit the first year. He said we must keep the Italian bees, as they are the best, and are moth-proof; moths do not kill bees, but when a colony is reduced, moths come to fill the vacancy. He also gave a full description of the sex and offices of bees.

Mr. C. P. Dadant, then in answer to questions, said that he would not make passage-ways through the combs for bees in winter. Bees should be clustered in the front of the hive in winter. The entrance of a hive should be from one to two inches wide in winter; the back of a hive should be one inch higher than the front. Leaves make an excellent packing material for bees.

A vote of thanks was tendered the choir for the excellent music rendered.

The convention adjourned to meet at Macomb, Ills., sometime in the spring of 1886, at the call of the President and Secretary.

J. G. NORTON, *Sec.*

SELECTIONS FROM OUR LETTER BOX

Good Results.—W. H. H. Stewart, Galt,⟜ Ills., on Oct. 11, 1885, says:

I have obtained over 1,400 pounds of honey from my 32 colonies of bees, while some of my neighbors did not get an ounce; and this result comes from my reading the AMERICAN BEE JOURNAL.

Honey Market at Detroit.—W. Z. Hutchinson, Rogersville,♂ Mich., Oct. 17, 1885, writes:

Upon seeing comb honey quoted at good figures in the Detroit papers, I took a sample of my honey there, but found the market overloaded and "more a-coming," so I would advise no one to send honey to Detroit at present. The scheme that had caused the high prices and the consequent glut in the market, I am informed is something like this: As the market was bare of honey, and none was coming in, several dealers clubbed together, paying $1 each, and hired the newspapers to quote honey "away up," and the consequence is that honey has been coming in there by the tons from every direction. I think that it would be a benefit to bee-keepers to known this, and not go to Detroit with the expectations of selling their honey at the "big price" at which it is being quoted. I wish to warn bee-keepers in this matter.

The Weather—Hybrid Bees.—J. H. Andre. Lockwood,♀ N. Y., on Oct. 15, 1885, writes:

To-day it is cool and cloudy, but the bees are busy bringing in pollen from witch-hazel. Mention is made in the BEE JOURNAL regarding the differently marked bees in the same hives containing hybrids. I find that all hybrids in this vicinity have bred back, the Italian strain predominating, and some apiaries showing it that have never been Italianized; and I do not know of any pure Italians within several miles of here. It is very singular, and I think it will be of great benefit to bee-keepers next season, if not thereafter.

Old Bees for Winter.—James Heddon, Dowagiac,♀ Mich., says:

I notice that some bee-keepers are fearing the results of the coming winter because their colonies ceased breeding early, and the hives contain no young bees. I think this fear is ill-founded. Bees do not grow old with time, but from exertion. Colonies of bees that have not bred late have not exerted themselves like those that have. The creation of young bees is always at the expense of the vitality of the older ones. My experience has taught me that young bees do not so readily enter the quiescent state, so desirable for safe wintering, as do old ones. In this quiescent condition but little food is taken, and scarcely any vitality is lost. No matter if the youngest bee in the hive was hatched on Sept. 1, because none were hatched later, she has preserved her vitality, hence her age, and if she passes the winter in quiescence, she will last until her hive is populous. Bees preserve their vitality (age) wonderfully during autumn, when conditions are such as to discourage breeding. The converse of this proposition is equally true. Bee-keepers should have no fears because colonies go into winter quarters with old bees.

The Season—Dwarf Drones.—W. S. Douglass, Lexington,⊙ Tex., on Oct. 16, 1885, writes:

Last year I started with 9 colonies of bees, and increased them to 22. The horse-mint crop was splendid. The bees filled their hives, and then commenced to build comb under the bottom-boards and around the entrances. Several bee-trees were found with combs on the outside that were filled with honey. I helped a man cut a tree that contained about 200 pounds of pure honey; but this was a hybrid colony. This year the horse-mint did not yield so well; although the bees have filled their hives from other flowers. This season I had 10 swarms, and I now have 32 colonies. I have 6 hybrid colonies which are far ahead of the German bees. They swarm more and gather more honey. I noticed them gathering honey from flowers that the black or German bees hardly noticed. They protect their combs better from the web-worm. This summer one of my very best colonies seemed to be "dwindling." I discovered dwarf drones in it, so I concluded that they had no queen. I opened the hive, and as I discovered the queen in a few minutes, I thought that they just reared a queen, and I shut up the hive. I waited several weeks, but nothing but dwarf drones seemed to be hatching out, and finally nothing was left except a few drones and the queen.

[A defective queen was, no doubt, the cause of the trouble.—ED.]

No Surplus Honey.—C. M. Roberts, Chillicothe,♀ O., on Oct. 23, 1885, writes:

This season has been a complete failure so far as a surplus of honey is concerned. I have black colonies that have not yielded a single pound of surplus, and yet they are now absolutely starving. My Italians gathered some surplus from red clover, but not 10 pounds to the colony. All the black bees in this locality will die during the coming winter unless they are fed. White clover, upon which we depend for a surplus, froze entirely out last winter, and the crop from the seed has not blossomed yet.

Local Convention Directory.

1885. *Time and place of Meeting.*

Oct. 28, 29.—Central Illinois, at Jacksonville, Ills.

Nov. 5, 6.—N. J. & Eastern, at Trenton, N. J.
Wm. B. Treadwell, Sec., 16 Thomas St., N. Y.

Nov. 12.—Central Michigan, at Lansing, Mich.
E. N. Wood, Sec., N. Lansing, Mich.

Dec. 8—10.—Michigan State, at Detroit, Mich.
H. D. Cutting, Sec., Clinton, Mich.

Dec. 8—10.—North American, at Detroit, Mich.
W. Z. Hutchinson, Sec., Rogersville, Mich.

Dec. 8-10.—Northwestern, at Detroit, Mich,
W. Z. Hutchinson, Sec., Rogersville, Mich,

1886.
Apr. 27.—Des Moines County, at Burlington, Iowa.
Jno. Nau, Sec., Middletown, Iowa.

☞ In order to have this table complete, Secretaries are requested to forward full particulars of time and place of future meetings.—ED.

The National Bee-Keepers' Union.

MEMBERS RECEIVED SINCE LAST ISSUE.

Baldwin, A. A.,
Baldwin, L. W.,
Christie, Jno. H.,
Drew, Wm.,
Gibson, F. A.,
Hogue, R. M.,
Jones, J. H.,
Salisbury, S. W.,
Sumner, T. B.,
Valentine, J. M.

The Guide and Hand-Book, is a book of ready reference and an encyclopædia of everything desirable to know. As a guide to the home-seeker, it is invaluable. Its contents are partially given on page 686, and will convince any one of its value. We do not think any of our readers can afford to do without it. As a book of ready reference we find it of great value in our library. We will send the Weekly BEE JOURNAL for a year and the Guide for $1.30.

WEEKLY EDITION
OF THE
AMERICAN
ESTABLISHED IN 1861
OLDEST BEE PAPER IN AMERICA
BEE JOURNAL
PUBLISHED BY
THOMAS G. NEWMAN & SON,
PROPRIETORS,
923 & 925 WEST MADISON ST., CHICAGO, ILL.
Weekly, $2 a year; Monthly, 50 cents.

ALFRED H. NEWMAN,
BUSINESS MANAGER.

Special Notices.

SPECIAL NOTICE.—On January 1, 1886, the price of the Weekly BEE JOURNAL will be reduced to *One Dollar a Year.* This we have contemplated for some years, and only awaited the proper time to warrant us in issuing the Weekly BEE JOURNAL at the very low price of *one dollar* a year. That time has now come. We shall continue to improve the BEE JOURNAL, and it will maintain its proud position as the leading bee-paper of the World!

New subscribers will be supplied with the Weekly from now until the end of the year 1886, for **$1.25.**

Those who have already subscribed for any portion of *next year* will have the time beyond January 1st doubled. These changes in the mail-list type are already made.

◆

For $1.25 we will send the Weekly BEE JOURNAL to *new subscribers* from now until the end of 1886—fourteen months. Now is the time to subscribe. The sooner it is done the more they will get for the money.

◆

To Correspondents.—It would save us much trouble, if all would be particular to give their P. O. address and name, when writing to this office. We have several letters (some inclosing money) that have no name; many others having no Post-Office, County or State. Also, if you live near one post-office and get your mail at another, be sure to give the address we have on our list.

◆

Any person not a subscriber, receiving a copy of this paper, will please consider it an invitation to become a subscriber to it.

◆

☞ All who intend to be systematic in their work in the apiary, should get a copy of the Apiary Register and commence to use it. The prices are as follows:

For 50 colonies (120 pages)..............	$1 00
" 100 colonies (220 pages)...........	1 25
" 200 colonies (420 pages).............	1 50

The larger ones can be used for a few colonies, give room for an increase of numbers, and still keep the record all together in one book, and are therefore most desirable.

Honey and Beeswax Market.

Office of the AMERICAN BEE JOURNAL,
Monday, 10 a. m., Oct. 26, 1885.

The following are the latest quotations for honey and beeswax received up to this hour:

CHICAGO.

HONEY.—It is in good demand, and for the best grades of white comb honey 15@16c. is obtained. Off-colored and dark find very slow sale. Extracted is steady at 5@8c. per lb.

BEESWAX.—24@25c. Offerings of honey and wax are light.

R. A. BURNETT, 161 South Water St.

BOSTON.

HONEY.—It is selling very well but prices are very low, and we are often obliged to shade our prices in order to make rates. We quote comb honey in 1-lb. sections at 14@16c., and 2-lb. sections at 12@14c. Extracted, 6@8c.

BEESWAX.—30 cts. per lb.

BLAKE & RIPLEY, 57 Chatham Street.

NEW YORK.

HONEY.—There is not much change in the market. The new crop is coming in quite freely, and is selling readily at the following prices: Fancy white clover, in 1-lb. sections, 14@15 cents; the same in 2-lb. sections, 12@13c.; fair to good, in 1 and 2 lb. sections, 10@11c.; fancy buckwheat, in 1-lb. sections, 11@12c.; the same in 2-lb. sections, 9@10c. Extracted, white clover, 6@7c.; buckwheat, 5@6c.

BEESWAX—Prime yellow, 25@28c.

McCAUL & HILDRETH BROS., 34 Hudson St.

CINCINNATI.

HONEY.—There is no material change in the market. Demand is slow for manufacturing purposes, while the trade is fair in comb and extracted honey for table use. Arrivals are good. Choice comb honey brings 14@16c. per lb. in a jobbing way, and extracted honey, 4@8c., according to quality.

BEESWAX.—Home demand is fair, and it brings 20@22c. for choice yellow, on arrival.

C. F. MUTH, Freeman & Central Ave.

SAN FRANCISCO.

HONEY.—Arrivals are quite light, with a probability of so continuing through the balance of the season. There is some inquiry for best qualities, with a firm market for the same. Quotations are as follows: White to extra white comb, 9@11c.; dark to good, 5@8c. Extracted, white liquid, 5@5½ cts.; light amber colored, 4½@5c.; amber and candied, 4¼c.

BEESWAX.—Quotable at 23@25c., wholesale.

O. B. SMITH & Co., 423 Front Street.

CLEVELAND.

HONEY.—The market since our last report has improved very much and there is a good opening for very choice white 1-lb. sections, for which 14@15c. is obtained Our stock of new is very light at present but of the old we have a good supply which we sell at 10@13c. for white 1-lb. sections. Extracted honey is slow at 6@7c. for best white clover and basswood.

BEESWAX.—Very scarce at 20@22c.

A. C. KENDEL, 115 Ontario Street.

KANSAS CITY.

HONEY.—We now report a very firm market with some advance in prices, though the trade take hold very slowly as yet, and complain terribly when the advance is quoted to them. We are now holding for 16@17c. for fancy white honey in 1-lb. sections, 15@16c. for 2-lbs., and 12@13c. for Calif. Fancy 1-lb. sections, if marketed soon, will bring a good price. Extracted is a little firmer at about the same prices, viz: Miss., La. and Texas, 4@6c., and white clover and Calif., 7@8c.

BEESWAX.—Unchanged, 20@25c., according to quality.

CLEMONS, CLOON & Co., cor. 4th & Walnut.

◆

Preserve your papers for reference. If you have no **BINDER** we will mail you one for 75 cents, or you can have one FREE if you will send us 4 new yearly subscriptions for the BEE JOURNAL.

◆

The Western World Guide and Hand-Book of Useful Information, contains the greatest amount of useful information ever put together in such a cheap form. The printing, paper, and binding are excellent, and the book is well worth a dollar. To any one sending us two *new* subscribers besides their own, with $3, for one year, we will present a copy of this valuable book.

Honey as Food and Medicine.

☞ To create Honey Markets in every village, town and city, wide-awake honey producers should get the Leaflets "Why Eat Honey" (only 50 cents per 100), or else the pamphlets on "Honey as Food and Medicine," and scatter them plentifully, and the result will be a DEMAND for all of their crops at remunerative prices. "Honey as Food and Medicine" are sold at the following prices:

Single copy, 5 cts.; per doz., **40** cts.; per hundred, **$2.50.** Five hundred will be sent postpaid for **$10.00;** or **1,000** for **$15.00.** On orders of **100** or more, we will print, if desired, on the cover-page, "Presented by," etc. (giving the name and address of the bee-keeper who scatters them).

◆

"Don't Stop"—that is what many write to us about their papers, when their time is nearly out. One subscriber says: "This has been a year of disaster, and it is not convenient for me to send you the money now to renew my subscription. It runs out with this month; *but don't stop sending it.* I will get the money to you within three months." Such letters are coming every day, and so for the present we have concluded not to stop any papers until requested to do so.

◆

☞ Our rates for two or more copies of the book, "Bees and Honey," may be found on the Book List on the second page of this paper. Also wholesale rates on all books where they are purchased "to sell again."

◆

☞ **Sample Copies** of the BEE JOURNAL will be sent FREE upon application. Any one intending to get up a club can have sample copies sent to the persons they desire to interview by sending the names to this office, or we will send them all to the agent.

◆

Agents can sell the Guide and Hand-Book like "hot-cakes." Send us an order for five copies (with $2.50) and we will send you the Weekly BEE JOURNAL *free* for a year. This is a *rare* opportunity to get the Weekly BEE JOURNAL without cost!!

Advertisements.

HONEY

WE are now in the market, and will be during the entire season, for all honey offered us, in any quantity, shape, or condition—just so it is pure. We will sell on commission, charging 5 per cent.; or, if a sample is sent us, we will make the best cash offer the general market will afford. We will handle beeswax the same way, and can furnish bee-men in quantities, crude or refined, at lowest market prices. Mr. Jerome Twichell, our junior member in this department, has full charge, which insures prompt and careful attention in all its details.

Sample of comb honey must be a full case, representing a fair average of the lot. On such sample we will make prompt returns, whether we buy or not.

CLEMONS, CLOON & CO.,
36A17t KANSAS CITY, MO.

SALARY and expenses paid agents to sell goods to dealers $30 to $50 a month and expenses to distribute circulars only No capital required. Salary paid monthly. Expenses in advance. Sample package of our goods and full particulars Free. Send 15 Cents for postage, packing, etc. No postals. We mean what we say. Monarch Novelty Co., 4 Arcade Chambers, Cincinnati, O.

The Western World

GUIDE and HAND-BOOK

OF USEFUL INFORMATION.

For HOME SEEKERS or Tourists, Capitalists or Laborers. A vast amount of information not to be found elsewhere at any price.

A cloth-bound book, 4x7 inches, 288 pages

Price, 50 Cents.

The following is only a part of the Contents:

Colored Maps of all the States and Territories, including Alaska and District of Columbia.

Diagrams showing area, population, products, Government, State, School and Indian Lands of the several States.

Histories of each of the States from the Earliest Times.—Descriptive of their Topography, Soil, Climate, Rivers, Mountains, Natural Wonders, Population, Area, Islands, Lakes, Mines, Products, Manufactures, Industries, Cities, School Systems, Collection and Exemption Laws, Date of Holding Elections, Number of Representatives, Senators, Congressmen, and Presidential Electors, Number of Union and Confederate Soldiers in the Field, Price of Land Cleared and in Forest, Extent of Forest, Number of Different Callings, Rate of Interest, Usury Laws, PEDDLER OR DRUMMERS' LICENSE LAWS, DIVORCE LAWS, MINING LAWS, DESCRIPTION OF PUBLIC LANDS, LIST OF LANDS SUBJECT TO THE FORMS OF ENTRY, List of Land-Offices, Opportunities for Homes or Enterprise, Rainfall, Health, Ports of Entry, Population (male, female and foreign) Number of Indians, Mineral Resources, Nicknames of States and for whom or what they are named, Miles of Railroad and Canals, Tidal Frontage, STATE LAND LAWS, Religious Denominations and their Numbers, Number of Counties and Names.

Government Land Laws giving complete law on the subject of PRE-EMPTION HOMESTEAD, TIMBER CULTURE, SOLDIERS' HOMESTEAD, SWAMP LANDS, LAND WARRANTS, SCRIP, INDIAN TRUST LANDS, DESERT LANDS, COAL LANDS, TIMBER LANDS, MINERAL LANDS, AGRICULTURAL COLLEGE LANDS, ETC.

How to Acquire Lands of any kind belonging to the Government by any forms of entry, who may acquire them, and the different laws applicable to the different sections.

Postal, Pension and Patent Laws of the United States.

Coats-of-Arms of the States and Views of Celebrated Places, and of life in different regions.

Rules for measuring Lumber, Logs, Grain, Liquids, Tables of Weights and Measures of all kinds, Interest Rules and Tables, Lumber Tables.

Systems of Land Measures in various parts of the United States.

Contains also a Million useful facts.

The Weekly Bee Journal, for one year, and the Guide, postpaid, for $1.30.

THOS. G. NEWMAN & SON,
923 & 925 West Madison St., CHICAGO, ILL.

Dadant's Foundation Factory, wholesale and retail. See Advertisement in another column.

Bingham Smokers

AND

HONEY-KNIVES.

Send for Circulars.

Bingham & Hetherington,
ABRONIA, MICH.

WIN more money than at anything else by taking an agency for the best selling book out. Beginners succeed grandly. None fail. Terms free. HALLETT BOOK CO.
51A1y Portland, Maine.

Dadant's Foundation Factory, wholesale and retail. See Advertisement in another column.

Our Club List. ALL the best publications devoted to bee culture, at reduced rates. Send for Prospectus.
41Atf **H. ALLEY, Wenham, Mass.**

Bee-keepers' Supplies,

Standard Langstroth,

Quinby Standing-Frame,

And all other kinds of **Hives**, MADE TO ORDER,

Quinby Smoker a specialty.

I shall supply anything you need in the Apiary. Send for Illustrated Price List.

W. E. CLARK, successor to L. C. Root,
7A1y ORISKANY, Oneida County, N. Y.

THE BRITISH BEE JOURNAL

AND BEE-KEEPER'S ADVISER.

The BRITISH BEE JOURNAL is published SEMI-MONTHLY, at Seven Shillings per annum, and contains the best practical information for the time being, showing what to do, and when and how to do it.

The British Bee Journal and our Weekly for $2.50.

THE INVERTIBLE HIVE!

INVERTIBLE FRAMES,

Invertible Surplus Honey Cases,
Entrance Feeders, Top and Bottom Feeders,
Hive-Lifting Device, Honey Extractors,
Wax Extractors, Comb Foundation, etc.

☞ My new Illustrated Catalogue is now ready, and will be mailed to all who may apply for it. Address,

J. M. SHUCK,
DES MOINES, IOWA.
10A1y

NEW ONE-POUND HONEY PAIL.

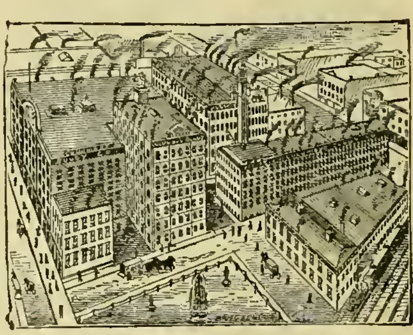
THIS new size of our Tapering Honey Pails is of uniform design with the other sizes, having the top edge turned over, and has a bail or handle,—making it very convenient to carry. It is well-made and, when filled with honey, makes a novel and attractive small package, that can be sold for 20 cents or less. Many consumers will buy it in order to give the children a handsome toy pail. **PRICE, 75 cents per dozen, or $5.00 per 100.**

THOS. G. NEWMAN & SON,
923 & 925 West Madison Street, CHICAGO, ILL.

A PRIZE. Send six cents for postage, and receive free, a costly box of goods which will help you to more money right away than anything else in this world. All, of either sex, succeed from first hour. The broad road to fortune opens before the workers, absolutely sure. At once address TRUE & Co., Augusta, Maine.
51A1y

COLUMBUS BUGGY CO.,

COLUMBUS, OHIO.



(View of our Factory.)

MANUFACTURERS OF

STRICTLY

FIRST-CLASS VEHICLES

At New Orleans World's Exposition was awarded 1st. Premium for finest display of Vehicles, against 64 Competitors.

The justly **celebrated Brewster** cross-spring **side-bar** being our great specialty, we build **only one grade** of work, and that of **the best** in **quality and style.** We do not make the lowest priced vehicles, but claim that ours are the **cheapest in the world** when **quality** is considered. We use the **finest material** obtainable, employ only **expert** and **competent mechanics.** To insure the best and most uniform results, we now **manufacture our own wheels** from **finest timber** (sawed by our own mills) that can be obtained from the hills of Southern Ohio—famous as the **second growth hickory** district.

The reputation of the **Columbus Buggy Company** is unexcelled. The work is known and sold throughout the **entire** United States and Territories. Well introduced in England, Germany, Australia and South America.

Send for Catalogue and prices, and the name of the nearest dealer will be sent. 41A6t

GREEN'S FRUIT GUIDE
64 pages, with colored plat
illustrated, price 5 cts. "Ho
to Propagate and Grow Fruit.
64 pages, 2 colored plates,
illustrations. price 50 cents.

GREEN'S FRUIT GROWER,
price 50 cents per year. Sao
ple copy free. Address,
GREEN'S NURSERY CO.,
Rochester, N. Y.

FLAT-BOTTOM

COMB FOUNDATION,

high side-walls, 4 to 16 square feet to the pound. Circular and samples free

J. VAN DEUSEN & SONS,
Sole Manufacturers,
Sprout Brook, Mont. Co., N. Y.

$200,000 *in presents given away.* Send us 5 cents postage, and by mail you will get *free* a package of goods of large value, that will start you in work that will at once bring you in money faster than anything else in America. All about the $200,000 in presents with each box. Agents wanted everywhere, of either sex, of all ages, for all the time, or spare time only, to work for us at their own homes. Fortunes for all workers absolutely assured. Don't delay. H. HALLETT & CO.
51A1y Portland, Maine.

WEEKLY EDITION
OF THE
AMERICAN
ESTABLISHED IN 1861
OLDEST BEE PAPER IN AMERICA
BEE JOURNAL

THOMAS G. NEWMAN,
EDITOR.

Vol. XXI. Nov. 4, 1885. No. 44.

APICULTURAL NEWS ITEMS.

EDITORIAL AND SELECTED.

Plant Blessings, and blessings will bloom;
  Plant hate, and hate will grow;
You can sow to-day—to-morrow shall bring
Blossoms that prove what sort of a thing
  Is the seed—the seed that you sow.

Our Joys are our wings, our sorrows are our spurs.

The Fire of a Forest, fierce as it is, will burn out in one day, but you cannot arrest the progress of that cruel word you uttered carelessly yesterday: it will go on slaying, poisoning, burning, embittering beyond your control forever and ever.

Style of Package, says the Indiana *Farmer*, has much to do with quick sales, nowadays, and this is no less true in selling honey than any other product. With many the idea prevails that there is an over-production of honey, hence the depressed prices. Comb honey now sells at from 14 to to 18 cents per pound wholesale, whereas a year or two since it readily brought 20 to 25 cents. But everything else is correspondingly lower, it must be remembered, and sales are slow in almost every department of trade.

For Wind-Breaks one of the best trees is the Norway Spruce, says the Pennsylvania *Farmer*. It is one of the hardiest of evergreens, and grows easily from seeds. Nurserymen propagate it to a great extent, and sell the plants very cheap. Nice plants 2 feet high can be had at a cost of about $12 per hundred, from almost any large nursery. Evergreens do very well planted in early autumn. The roots become a little active before winter, making the task of going through the winter easy, and the plant is in a good condition to go through the heat of the summer. The hardy character of the Norway makes it the most sought for for planting for screens in the winter. The north side of exposed farm buildings should have these trees planted there at once—not too near, or it makes the place too much shut up in summer. Thirty feet is near enough to the buildings. The comfort all animals would derive from such trees in winter time would prove very much to the profit of the owner.

The Sheep-Bees Lawsuit was "called" at the Circuit Court in Richland Centre, Wis., on Wednesday, Oct. 28, 1885. It was dismissed by Judge Clementson, who decided that there "was no cause of action," and the jury was discharged. It may be argued before the Supreme Court, and should that Court determine that there *is* a "case," then it may come to trial on the ruling of the Supreme Court. The Bee-Keepers' Union made *such a stir*, and showed such fighting enthusiasm in the matter, that the Judge made a thorough examination of the laws of the State and concluded that there existed no laws or rulings upon which he could instruct the jury.

We think that the bee-keepers of America have cause for *pride* in the success that has, so far, attended their efforts in this matter.

We shall watch the matter closely, and check-mate any move that may be made by the complainant, and now at the close of the first combat, let us all jubilate, while our Bird crows for Victory No. 1.

Strike the tong-jong, Beat the fuzzy-guzzy,
  Let the loud hosannas ring
Tum-tum fuzzy-guzzy—Ding, dong, ding!

We will give full particulars of this suit next week—including the complaint of the plaintiff and the decision of the Judge.

Do you wish to be Honored? Act well your part, whatever it may be—there all the honor lies.

The Alfalfa, or Chilian clover, says the Florida *Dispatch*, seems peculiarly adapted to the South, and can hardly fail of success in all parts of Florida. It is said that this very valuable grass was brought into Greece from Persia nearly five hundred years before the Christian era. At present it is largely cultivated in England, France, and other parts of Europe, and gives great satisfaction as a forage plant. It is being introduced quite extensively into the interior of our country, and though as yet California is far ahead in its culture, in time Alfalfa will be a prominent crop in all places where the winters are not too severe. The power to withstand great heat and dryness comes from the long, searching tap-roots, which are sent deeply down into the soil and find moisture which is inaccessible to other less energetic vegetation.

Are you Entitled to a pension? You may be and may not know it. If you examine the Guide and Hand-Book you will soon find out. Thousands of things worth knowing will be found in it. The Bee Journal for 1886 and the Guide Book will both be sent for $1.30.

Capt. Urdrington's book on "Spain and the Spaniards" contains this historical incident about bees:

The Canon Cepero, so well known in the first Cortes, being shut up in the convent of the Cartusa at Seville, by order of King Ferdinand, by way of passing the time applied himself to study the economy of bees, which he had followed up at Cozalla, and was so successful in his management that in a very short time he had a thousand hives. When the civil war commenced circumstances caused their being neglected and dispersed, and some swarms finding no holes or cavities to suit them, attached themselves to a beam in an outhouse, where they made their combs in a similar manner to that by which the tree-wasps suspend their curious fabric from the branches. They were so satisfied with this novel situation that they never left it nor swarmed, but kept adding successive combs until they nearly reached the ground, and hung from the point of suspension like a huge living and waxen stalactite. The owner never disturbed them, but had the lower combs cut off, as they were wanted, and the colony had now remained a considerable period without their showing any disposition to change it.

The Southeastern Michigan Bee-Keepers' Association have decided to hold their regular meeting this fall at Detroit, on Dec. 8, 9, and 10, with the North American Bee-Keepers' Society, the Michigan State Bee-Keepers' Association, and the Northwestern Bee-Keepers' Society.

Rattle-Snakes and Honey.—The *Globe-Democrat* mentions the following snake story and vouches for its truth:

Near Fayetteville, Ark., two young farmers named Young and Stewart were out hunting a few days ago and discovered bees passing out and in through a hole about 40 feet from the ground in a large black oak, which was some 4 feet in diameter. Of course they thought that they had made a rich discovery. They were not then prepared to cut the tree, and started for home. On their way Young bought Stewart's interest in the find, paying $1 cash for it. Next day Young invited several friends to help him cut the tree and share the treasure it contained. So supplied with axes and buckets they proceeded to the woods and cut down the tree. After it fell crashing to the ground, Young ran with a handful of leaves and stopped the hole through which the bees entered the tree, but soon they came swarming out at a split made in the trunk by falling. One of his friends suggested that he did not believe that the bees were going to give them much trouble, and for him to pull the plug out of the hole. He did so, and immediately a rattle-snake came crawling out at the hole, coiled himself by the side of the fallen tree, raised his flat head, distended his mouth, shot out his tongue, and gave out that paralyzing sound with his rattles which, when once heard, is never forgotten. He was soon dispatched, however, and the work of discovery went on. They then chopped into the log, split out a long block, and there found coiled up in the hollow of the log two other rattlers, which were promptly killed. What promised to be a delicious feast only proved to be a fine mass of dry comb, so thoroughly had the honey been eaten out by the snakes. The tree was perfectly covered at the stump, and the snakes to reach the hollow had to climb 40 feet, which is claimed to be a new performance with rattle-snakes, or at least an unobserved characteristic among them heretofore in this part of the country.

The Time for Reading has now come. The long winter evenings can be utilized by reading up bee-literature. We have all the newest bee-books and can fill all orders on the day they are received.

When Renewing your subscription please try to get your neighbor who keeps bees to join with you in taking the Bee Journal. It is now *so cheap* that no one can afford to do without it.

QUERIES

WITH

REPLIES by Prominent Apiarists.

Combs of Honey for Next Season.

Query, No. 147.—I will have about 200 combs very full of honey for next year's swarms and increase. Would it be advisable to throw the honey out and use empty combs? or would it be best to use full combs of honey? I want to make my increase by natural swarming, if they will swarm.—Delaware.

I believe I should empty the combs, if honey brings a fair price.—C. C. MILLER.

Extract the honey and use the combs empty. Often the honey is worse than useless.—JAMES HEDDON.

If only 5 or 6 combs of honey are used, and the sections put on when the swarm is hived, the bees will carry the honey from the combs to the sections, and thus it gives them a good start. If a full hive of combs are to be used, or if the honey in the combs is dark colored, I should extract it.—G. M. DOOLITTLE.

I always throw out the honey in the fall, and use empty combs in the following spring. We do not usually need the honey. I always save a few combs with the honey in to use in case I wish or need them.—A. J. COOK.

I should use those combs for building up the colonies in the spring. If there were more than were necessary for this purpose, I would extract the honey. It certainly would not be good policy to carry it till swarming time.—G. L. TINKER.

I would warm the honey now, and extract it. I would not hive bees upon combs, unless I was producing extracted honey, and then I would wish the combs to be empty.—W. Z. HUTCHINSON.

If your combs are full from top to bottom you had better extract the most of them. If they are only one-third full, then you might as well keep them in that condition. We would advise you to make swarms by division and not depend upon natural swarming.—DADANT & SON.

I would extract the honey and give the empty combs to the swarms. It does not pay to give swarms combs containing even a small amount of honey, because the old honey will be carried into the surplus apartment by the bees, and it will damage the new honey in appearance at least.—G. W. DEMAREE.

Save your combs as they are for use next season. Hang them in a close room, about 2 inches apart, and if any signs of moth worms appear give them a bath of the fumes of burning sulphur. I have kept combs over from year to year to stock up with and for spring feeding, and have found no trouble in preserving them.—J. E. POND, JR.

Stimulating Colonies.

Query, No. 148.—Each of my hives have from 8 to 10 frames of honey in the brood-chamber. I shall contract them to 5 frames, and I have always found that these 5 combs contain more honey than a colony uses all winter. Is it best to throw the honey out of the combs that I take from the brood-chamber, and add empty combs in the spring when I commence to stimulate them so as to get early swarms? or would it be better to give them the combs of honey, uncapping them first, to induce early swarming?—Delaware City, Del.

I should prefer to give empty combs.—W. Z. HUTCHINSON.

The latter measure suggested is the proper one.—G. L. TINKER.

Undoubtedly the latter way is the best, but your climate must be very different from ours, if you can winter a 10-frame colony on 5 frames.—DADANT & SON.

Either way is excellent. Let ease, convenience, and the price of honey decide the matter.—A. J. COOK.

I would save about what I thought was necessary for spring feeding, if the colonies should need it, and extract the rest of the combs. I prefer empty combs to fill out the brood department in the spring, for the reasons mentioned in my answer to No. 147.—G. W. DEMAREE.

It depends somewhat upon the value of honey. Try both ways.—C. C. MILLER.

I should give the combs of honey as suggested, instead of empty combs.—G. M. DOOLITTLE.

That will depend entirely upon how the season opens next spring, and how good the honey-flow is. I should extract and sell the honey now, and if any was needed in the spring, I should furnish them liquid feed at that time.—JAMES HEDDON.

Cause of Sour Honey.

Query, No. 149.—What is the cause of uncapped cells of honey souring and running out of the sections freely? As I took them off the hive I spread them on the floor in a low room next to a tin roof, which had one low window toward the west, and a door opposite the window, which opened into another room. I thought I had a nice room in which to keep my honey, but it did not keep. Was the trouble with the room or with the honey? What can I do with the sections to make them salable?—S. M. H.

A cool, damp atmosphere causes honey to act as described. A very warm, dry room would thicken the honey again, but would hardly make it salable.—G. M. DOOLITTLE.

The trouble was with the honey which must have been unripe when the bees sealed it. This happens sometimes during a very good honey season.—DADANT & SON.

The state of the atmosphere had much to do with the trouble you mention. If the room described is well ventilated, I cannot see what hindered the honey from evaporating all right. I have found that a high temperature in a room is of little service to thin honey, if there is no draft of air to carry off the moisture. I have returned the sections to the bees and had them dried and cleaned up, but it is an unpleasant job to do it; and although the bees dry the honey nicely, it never looks as nice as it did when first removed.—G. W. DEMAREE.

Honey should not be taken off until sealed: if taken off before sealed it should be kept in a dry, hot atmosphere until the excess of moisture is evaporated.—W. Z. HUTCHINSON.

You can hardly do anything to make the sections better, but you can perhaps improve the quality of the honey by putting them where bread will dry quickest. The trouble may have been in the honey or the room, or both.—C. C. MILLER.

The honey was thin and the room too cool. We place the sections in a warm room, or extract and keep the honey in a warm room to ripen. Such sections are good for use next year.—A. J. COOK.

Honey will usually ferment and run out of the cells in a damp, cool room, like a cellar. Comb honey should be kept in a warm, dry room. If the honey has soured it would be best to extract it and use it for stimulative feeding in the spring.—G. L. TINKER.

In all probability the room was damp and the combs collected moisture from it. Honey, whether capped in the comb or otherwise, should be kept in a perfectly dry place, and if warm so much the better. Feed the honey to strong colonies, and they will take care of it for you.—J. E. POND, JR.

The trouble might have been partially with the honey, but mostly, no doubt, with the room. Any room, or article in such room, will draw moisture rapidly, if allowed to become much colder than the surrounding air at any time. I do not consider sections containing many uncapped cells "salable."—JAMES HEDDON.

Planting Trees for Honey.

Query, No. 150.—What are the best kinds of trees to plant for bees, this fall or next spring? Is there any tree that will supply as much nectar as linden, and that will grow faster?—Delaware.

I know of nothing better than basswood.—W. Z. HUTCHINSON

I consider linden or basswood the best honey-producing tree in the world; and but few trees grow faster.—G. M. DOOLITTLE.

Lindens are best for this locality.—C. C. MILLER.

No; and it hardly pays to plant basswood for honey unless they are wanted also as shade trees.—DADANT & SON.

I should choose linden, if nature had not already supplied a plenty. If so, I can recommend locust—the common black variety—for this locality. Perhaps the honey-locust would be best for your location.—JAMES HEDDON.

With us, black locust rivals the linden as a honey-producer, and grows more rapidly than does the latter. It blooms here just before the white clover, and fills up the hives ready for the clover harvest. Linden, here, blooms before the white clover dries up, and this makes the tree of less value to the bees than it would be if it bloomed later in the season.—G. W. DEMAREE.

The basswood or linden is the best for Northern latitudes—the sourwood for Southern. Five years since I planted 3 basswood trees 6 feet high in my garden; they are now 15 feet high, and the past season they were loaded down with fragrant bloom—G. L. TINKER.

It will be of little use to set out any trees with the expectation of gaining any immediate benefit. The basswood is probably the best for the purpose.—J. E. POND, JR.

I find linden and locust the best. The latter are objectionable as they are so apt to be destroyed by borers. The linden is *par excellence* in every respect—for beauty, utility, and freedom from insect attack.—A. J. COOK.

Honey-Plants for Bees.

Query, No. 151.—What seed is best to sow this fall or next spring for honey-plants for bees? Delaware City, Del.

Melilot.—C. C. MILLER.

Alsike clover, all things considered, is the best.—G. M. DOOLITTLE.

Alsike clover and buckwheat.—W. Z. HUTCHINSON.

Melilot or sweet clover. It will grow in all waste-places, and is very easily destroyed if you want to get rid of it.—DADANT & SON.

I know of nothing better than Alsike clover. I do not know of any seed that will pay to sow for honey alone.—J. E. POND, JR.

The seed of the basswood may be collected now and covered on the ground with a few leaves. In the spring it may be planted in drills or where wanted. The golden honey-plant, sweet clover and cleome may also be sown on top of the ground now, and are valuable in the localities where they flourish.—G. L. TINKER.

Alsike clover is splendid. Rocky Mountain bee-plant is excellent. This has to be planted in autumn or it fails. Rape and the mustards are good.—A. J. COOK.

I am more and more convinced that it will not pay to sow seeds of any kind for the honey alone—except in waste places. Alsike clover is a good honey-producer, but it blooms here at the same time white clover does.—G. W. DEMAREE.

Pleurisy-root, if on light soil, and melilot clover for heavy soils, are the best.—JAMES HEDDON.

To give away a copy of "Honey as Food and Medicine" to every one who buys a package of honey, will sell almost any quantity of it.

CORRESPONDENCE.

Explanatory.—The figures BEFORE the names indicate the number of years that the person has kept bees. Those AFTER, show the number of colonies the writer had in the previous spring and fall, or fall and spring, as the time of the year may require.

This mark ⊙ indicates that the apiarist is located near the centre of the State named: ♂ north of the centre; ♀ south; ○+ east; +○ west; and this ♂ northeast; ⌐○ northwest; ○¬ southeast; and ♀ southwest of the centre of the State mentioned.

For the American Bee Journal.

Review of Current Literature.

WM. F. CLARKE.

As I have now more leisure to devote to bee-keeping than I have had for several years past, so much so, that perhaps I may before long take rank with others as a "specialist," it has occured to me that I might render some service to the apicultural fraternity in the line of review or criticism; and I propose to mount a kind of crow's-nest perch, from which I can take a general survey of the bee-world and "say my say" on such matters and things as come within the sweep of my observation.

The word "criticism" is very generally misunderstood. It is usually taken to mean *fault-finding.* But the true province of criticism is to note excellence as well as defect. In fact, that is the highest function of criticism. When the great Sir Robert Peel, then a young man, was traveling with his tutor on the continent of Europe, they visited, among other places, the world-renowned art galleries, where the works of the great masters are on exhibition. The juvenile statesman was very pert and free in his fault-finding criticisms. At length his tutor took him aside, and said, "Let me remind you that any fool can find fault, but it takes a wise man to discern excellence." The well-timed rebuke was not lost on the youthful Sir Robert. I will try to review "all and sundry" in this spirit. It does not preclude the utmost freedom of speech compatible with courtesy. I have never joined that mutual admiration society whose motto is the one often seen adorning a receptacle for matches hanging on the wall, "Scratch my back." I have never intentionally penned an unkind word about any one, and abhor mere offensive personalities, but I have always written frankly, and under no other restraint than that imposed by the law of love. I shall aim to be guided by the maxim, "Nothing extenuate, nor set down aught in malice." We read in a certain grand old book, "Faithful are the wounds of a friend, but the kisses of an enemy are deceitful." Should I inflict any wounds, it will be "with all the love and kindness of a brother."

There are several bee-books before the public, and their number is increasing. Beyond a brief mention of the appearance of these works in print, scarcely any notice is taken of them in apicultural publications. Why should they not be subjected to candid and impartial criticism; their merits and defects pointed out, and the views they advocate controverted, as in the case of other books that issue from the press? All bee-keepers cannot buy every apicultural work that is published, any more than the reading public can buy every book that presents itself in the realm of general literature. Few bee-keepers feel able to subscribe for all the bee-periodicals; yet the desire is natural and proper to know something about all publications relating to bee-culture, in order to keep abreast of the times, and to be "posted," as the saying is, in regard to what is being said and done concerning the life and labors of the useful little insect that gathers in the honey-crop.

Guelph, Ont., Oct. 12, 1885.

For the American Bee Journal.

Small Hives vs. Large Hives.

JAMES HEDDON.

If I have ever stated that the strongest colonies always die of bee-diarrhea, as insinuated by Mr. C. P. Dadant, on page 666, I wish to retract that statement. I think I have never carried that idea, but I have had evidence that such strong colonies are apparently more apt to have that disease than those that go into winter quarters with only an average number of workers. This phenomenon was so marked in the apiary of Mr. Hosmer, of Wisconsin, some years ago, that he recommended the practice of reducing the colonies for winter. Many others have also noticed and remarked the same. However, it should not be forgotten that what is best in Mr. Dadant's latitude and location, may not be best here.

It was unnecessary for Mr. Dadant to make a calculation regarding the cost of different sizes of hives. In my first article I stated that I could house 40 Langstroth combs with 5 Langstroth hives nearly or quite as cheaply as with 4 hives having 10 combs each. I gave as a reason the extra-wide lumber needed to make good bottoms and covers. But Mr. D. claims that I have the extra labor of manipulating 5 hives instead of 4. To this I would say that I much prefer the manipulation of the smaller hives, even when one-fourth greater number must be manipulated. Heavy, cumbersome hives have not only discouraged women, and some of our less muscular men, but they have encouraged a system of frame manipulation to accomplish certain results that could be much more easily and expeditiously accomplished with a proper manipulation of light and easily-movable hives.

We get better combs built in narrower hives and surplus cases. When removing filled cases from the hives, I shake out nearly all the adhering bees, and I certainly do not want the cases any wider and heavier. I would rather have the surplus honey in 5 of the lighter and narrower cases than in 4 of the wider and heavier ones. Bees more promptly finish the outside sections in the narrower cases. I speak from years of experience with both sizes.

There is one more point of which I wish to speak. Messrs. Dadant & Son argue from the basis that large brood-chambers will prevent swarming, and that such prevention is profitable. I grant that any practical system of manipulation, or style of hive, that will totally prevent all swarming, is of great value; because it obviates the necessity of watching for swarms, and our apiaries may safely be left alone; but it is an admitted fact that in nearly all localities swarming cannot be so prevented, and in very many apiaries (my own included), large brood-chambers have scarcely any tendency to prevent increase of colonies. Make the hives with brood-chambers as large as you please, and our petted Italians will swarm and re-swarm.

Messrs. Dadant & Son theorize very nicely regarding the great number of bees that large hives will turn out, but their theory does not accord with my theory or practice. For the past three years I have had in my yard a considerable number of colonies in hives varying in size from the little, flat Bingham (equal to 6 Langstroth combs) up to a brood-chamber having 19 American (12x12) frames. I had 50 colonies in hives having brood-chambers of the latter size. Nearly or quite all of these swarmed, and I could not see that they cast any larger swarms than did colonies in hives with a capacity of only 6 Langstroth frames. Neither did they produce any more surplus honey, reckoned in dollars and cents. I managed the large brood-chambers for extracted honey, and the small ones for comb honey.

I do not see any profit to be gained by any system that discourages swarming, unless it completely prevents it so that we can leave the apiary alone when we so desire.

During the past season I used for producing comb honey 11 brood-chambers with 8 combs, 5 inches deep and 17 inches long, after the swarming time; that is, swarms were put into these hives. From them I obtained the largest aggregate yield of comb honey that I have ever had. Those colonies are now strong and in first-class condition.

Mr. C. P. Dadant's italicized declaration will be disproven by almost every practical comb-honey producer of any considerable experience. It is based upon the old error that the capital is vested in the egg-layer—the queen. I wish to present the following in opposition to Mr. D's axiom, and the future experience of bee-keepers may decide who was correct:

1. Our capital is vested in the combs, hive and field, almost wholly, and not in the queen.

2. If hives are used whose breeding room is adapted to the maximum laying capacity of different queens, there will be idle capital invested in the combs and hives occupied by all colonies but the one having this most prolific queen.

3. If hives are employed whose breeding room is adapted to the minimum capacity of normal queens, all the capital will be employed without any special and tedious manipulation.

4. Practically, queens cost nothing; their eggs cost almost nothing; and they are of value only as we need them to put into activity the capital vested in combs and hives. This capital can be kept most active with the least exertion on the part of the apiarist, when the bee-keeper has the maximum number of queens to the minimum number of combs.

In the above I have had reference to the prolificness of queens, as compared with each other, and the capital furnished them. Regarding their prolificness at different times of the year, the apiarist should endeavor to take advantage of that, whenever by so doing he is enabled to produce bees at such a time as will crowd the hives with workers when they will be profitable to us. In doing this the bee-keeper does not lose sight of the advantages of economizing in both capital and labor.

The contraction method, varied to suit location, will accomplish this desired end. The only fault connected with this method is the necessity of heretofore having added manipulation; but my last season's experiments have enabled me to enjoy all of its advantages, at the same time reducing the labor to almost nothing.

No doubt Mr. Dadant is confident that he is right; I feel sure that I too am right. Possibly the difference in climate, and our education in practical apiculture, may partially account for our individual preferences and success.

While the question must be decided by the practical experience of the future, our present friendly discussion will not have been in vain—for none of us have yet learned it all, much is still *unknown*.

Dowagiac, Mich.

* * *

Baltimore List.

Have Bees a Language?

C. H. LAKE.

Bees have a language well understood by themselves, and pretty well known by any bee-keeper of any extensive experience.

The hum of contentment; the hum of trouble; the hum of peace; the hum of defense; the hum of plenty; the buzz of starvation; the roar of grief; the hum of joy; the buzz of the heavy laden; the cry of pain; and the music of their "distilling" hours are well understood by the watchful bee-keeper. The cry of pain from a bee within hearing of the hive will affect the whole colony. I have often taken bees into a honey-room and allowed them to fill themselves with honey, and then open the windows a little and allow them to go into their hive. In a short time they would return, and before many minutes the whole colony seemed to be made aware of the booty at hand, and upon closing the window hundreds collected, buzzing terribly to gain admittance.

To test the sagacity of Italian bees, I caused a block of honey to be broken on the sill of a window; in less than three minutes the first bee made its appearance, it made three trips before a companion came with it, and within ten minutes over twenty were feeding on it. I then closed the window and formed a small opening in one corner of the pane; every bee came through that opening upon the table on which the honey now laid, and their number increased; the honey was next taken into a passage-way connecting with an adjoining room; here, too, the bees followed, and had to pass under the door. The honey was next placed in a dark closet, made tight, except a small opening near the lock, and here they found it as readily as in the open room and communicated it to the others, and for an hour a steady stream of bees was pouring forth from the hive to the honey, while other colonies within 20 feet were quiet. The experiment was tried in August, when no honey was coming in.

A year ago one of my assistants went to a neighboring apiarist to remove the surplus honey, which was taken into a dark cellar. The adjoining cellar was lighted by a window that had a small piece broken out of one pane, scarcely large enough to admit the passage of more than one bee at a time. The owner, upon going to the cellar in order to get some marketing products the next morning, discovered a bee or two going through this opening, but thinking no harm could come from it, went to market, leaving, as he supposed, his honey safe. Imagine his surprise upon his return to find a cloud of bees on the window and his honey gone; one or two had been left in the boxes when carried to the cellar, that had found a way of escape through the broken pane, and communicated where their hidden treasure was.

An early writer in an English paper thus alludes to a similar occurrence under his observation: "A few pounds of honey was taken from a hive about six miles from London, and placed in a closet under lock and key. The windows of the room having been left open, the bees gained admission, and entering the closet under the door, removed the whole of the honey. The cells of wax were left entire and the honey was conveyed to the central division of the hive, where it was safely deposited during the day. It is evident that spies must have been employed to observe where the honey was placed, and that as soon as the information was communicated to the hive, the colony took this vigorous measure for the recovery of the stolen property.

It is remarkable that they should have succeeded so completely and in so short a time, since the closet was entirely dark and they could only enter by a crevice under the door."

Baltimore, ♁ Md.

Michigan Agricultural College Bulletin.

Wintering Bees.

A. J. COOK.

The importance of bee-culture, as one of our national industries, is hardly appreciated. According to our well demonstrated modern philosophy, plants pour out their nectar as a sort of free coffee or lunch, to attract bees and other insects to a most important work in vegetable economy, the work of fertilization, which largely depends upon insects, and without which full fruitage is impossible. The simple work of gathering nectar then is indirectly of tremendous economic importance to the farmer and horticulturist, and so to our whole country.

Again, this nectar, when acted upon by the digestive juices of the bee, is converted into honey, a food long valued for its superior excellence, which, without bees, would be wholly lost; worse than lost, as we see from the fact stated above.

Bees, from their exceeding number and peculiar fitness for the work, are greatly superior to any and all other insects in the accomplishment of this fertilization of plants, while only the honey-bees are abundant early in the season, and they alone save this valuable food-element to minister to man's good.

To show the activity of bees and their wondrous accomplishments, we have only to present well known facts. I find, by actual observation, that single flowers are sometimes visited by bees fifty times a day, and I have seen bees visit over twenty flowers a minute.

Mr. L. C. Root, of Mohawk, N. Y., (*American Apiculturist*, Vol. III, p. 197) extracted 4,103 pounds of honey on July 28, 1885, collected from basswood, which had all been gathered by 40 colonies of bees in just 7 days. This is over 100 pounds per colony, and the daily stores of each colony exceed 14 pounds. During the same time, we secured, here at the College, nearly half as much beautiful comb honey from single colonies.

I know of a farmer in this State—a good farmer, with a farm of over 100 acres which he tills exceedingly well—who has kept bees six or seven years, and who, for the last three years, has had from 60 to 80 colonies; the cash receipts from these bees, during each of the last three years, exceeded those of the entire balance of his farm. During all these years this gentleman has never lost a colony of bees, until last winter, when one or two died of starvation. The same experience would be true of any farmer in almost any Michigan neighborhood, who would put the same thought, study, and energy into the business.

The one great drawback in this industry is the danger of loss which comes with each of our severe winters, which are unpleasantly frequent of late. Last winter was one of the most severe. Judging from the experience of the last 20 years, these terribly cold winters may be expected about once in 3 years. If we may judge from the past, we may also safely assert that during these most trying winters there will be a loss of from 50 to 100 per cent. of the colonies of bees in all the Northern States. Such a loss as this, unless it can be prevented with ease and certainty, is too serious an obstacle in the way of success to be cheerfully endured, even by those in the most attractive and remunerative of employments, and it is greatly to the praise of apiculture that, burdened with this loss, it has made such constant and rapid progress.

The fact that so many apiarists, like the one referred to above, meet with no loss, makes it clear that with full knowledge, followed by equal care and pains, this loss may be wholly prevented. Many of our best bee-keepers have no more fear of losing their bees than of losing their cattle and horses. We, at the college, have met with no such loss for years.

POINTS TO BE CONSIDERED.

Bees are natives of a warm climate, which would lead to the conclusion that in rigorous climates they would need protection, especially at times of great cold. The fact that winter losses are never heard of in California and the South strengthens the argument, which seems almost demonstrated by the fact that our losses in the North always occur in winters of great and long-continued cold.

Again, bees are very neat, and in confinement hold their fecal excreta, or try to do so until they can fly. If kept very quiet they eat very little (we have had single colonies of bees pass four or five months in the cellar without consuming more than 4 or 5 pounds), and the food they do eat when thus quiet is largely, if not wholly, of honey, and so there is very little waste. Thus when quiet bees do not need to fly to discharge their feces—they bear confinement for months with no harm. The best condition to maintain this needed quiet is uniform temperature, which experience has demonstrated to be about 45° Fahr. I prefer the temperature about the hive to be kept at from 40° Fahr. to 45° Fahr. In a surrounding temperature much higher or lower, the bees are disturbed, exercise much, eat more, and become diarrhetic.

From years of experience and observation it seems pretty well demonstrated that with enough good, wholesome food—30 pounds of good honey or cane-sugar syrup—and a uniform temperature as suggested above, our bees will winter invariably without loss.

DAMPNESS AND VENTILATION.

It would seem that a damp atmosphere, which, as we all know, is favorable to the growth and development of fungi, and inimical to health in higher animals, would be harmful to bees. It has been found, however, that in many cases, even during the terribly disastrous winters like the past one, bees have wintered remarkably well in very damp cellars. Thus while we may presume that a very damp atmosphere is not the best, yet we may safely assert, other things being favorable, that it of itself will not carry the seeds of mortality with it.

Ventilation has also been much discussed, and various theories have been offered; yet the physiologist, and especially the physio-entomologist, will not be easily persuaded that insects whose functional activity is so slight, that a minimum of food supplies their wants, stand in need of much air. One year at the College I sealed a large colony of bees with ice frozen solid at the entrance of the hive, and yet the colony wintered exceptionally well. This colony remained for more than three months entombed in a snow-bank. As the hive was glued or propolized at the top, we can see that the ventilation was slight indeed. Thus physiology and experience both show that under the best conditions little heed need be given to ventilation. While bees do not hibernate in the sense of becoming totally inactive, yet they may and should have their vital activity kept at the minimum, else they will need air and quite ample ventilation. As we have already seen, cold or heat—that is a temperature much below or above 45° Fahr.—arouses bees, excites nutrition, and of course would necessitate more food and oxygen, and so more ventilation. Unless we can keep the bees, then, in just the condition to enforce quiet, we must arrange for ample ventilation.

It goes without saying, that the temperature inside a hive, in which bees are wintering, must generally be warmer than that outside the same. The fact that bees do not hibernate establishes this truth. The thermometer confirms it. We know that moisture is sure to collect on a cool surface; but water dripping upon bees cannot be healthful. The disturbance and the wetting would both be injurious. To winter bees with the best success needs a covering that is not a good conductor of heat. Experiments on quite an extended scale have shown me that this is not all theory.

We see then that the requisites to success in wintering bees are, viz: enough good food, uniform temperature without the hives at about 45° Fahr., slight ventilation, and a cover to the hive which is a non-conductor of heat.

METHODS THAT HAVE SECURED SUCCESS.

Food.—The food may be either honey or cane-sugar syrup. Any kind of honey, if wholesome and pleasant to the taste, will answer. Even last winter the bees at the College were wintered wholly on honey gathered in autumn, after Aug. 25, and all wintered well, and there was no sign of diarrhea, except in a few cases where much pollen was left in the hives. Cane-sugar syrup is quite as good, and possibly superior to honey, at times, as we can be certain that the syrup is free from deleterious elements. The syrup for winter food may be as condensed as possible, and yet it must not crystallize when cold. One-half to one-third as much water as sugar by weight is about right. A little honey added will also retard crystallization; a little tartaric acid is often used for the same purpose. It is best to feed quite early so all may be stored and capped before winter's cold prevents further labor in the hive. Bees should never go into winter quarters with less than 30 pounds of food, which will always suffice from September till the next harvest.

Important Suggestion.—It is well to have all colonies reasonably strong in autumn, and soon after the first hard frost give each colony as few combs as possible and secure the requisite amount of honey. I prefer to use six Gallup or Langstroth frames, and, by use of division-boards, crowd the bees; then I cover warmly with sacks of dry sawdust, made of burlap. This costs but little, and aids greatly to preserve the vital strength of the bees during the cold days of October and November and early the next season.

Uniform Temperature.—This is best and most cheaply secured by use of a good, dry (?), dark cellar. As a cellar is entirely or nearly all beneath the surface of the earth, it remains unaffected by the severest cold of winter or the more genial warmth of spring. The great requisite is that the temperature shall never go below 38° Fahr., even during the most severe weather of our most rigorous winters, nor above 47° Fahr. A good, under-ground cellar will secure the former, but when many bees are put into one cellar it is not always so easy to secure against too great heat. There are two ways to accomplish this: First, by use of water in the cellar, and, second, by means of under-ground or sub-earth ventilation. When a running stream from springs can be secured, it forms the most desirable moderating agency I know of. Such water is just about the proper temperature, and while it modifies against heat or cold, it also serves beautifully to dissolve impurities and sweeten the atmosphere. In lieu of such a spring or running water (under-ground tile are constantly carrying water into and out of our College bee-cellar), a good cistern answers well. The water in this is regulated by the usual temperature of the cellar, which is about that of the earth, and so in times of extreme cold or too great warmth it protects the cellar against change. I know of such a bee-cellar that passed the coldest weather of last winter, with an east window constantly open, and yet the temperature was maintained at the desired point. Such an amount of latent heat stored up in a cellar cistern is a great safe-guard, and is especially valuable when a great number of bees are placed in a cellar.

Each colony generates some heat, and with a multitude, the heat, especially during a protracted warm spell in winter or spring, is apt to become ruinously excessive. Sub-earth ventilation secures this moderating agency in air which comes to the cellar, cooled or heated by a long transit through an earth pipe, which runs many yards through the earth, beneath the influence of the outside temperature. To secure the necessary exchange of air and certain influx of the tempering atmosphere, a small-sized stove-pipe connects from near the bottom of the cellar with a stove-pipe, preferably, of the kitchen stove above. This small pipe has its lower end open, while above it connects with the kitchen stove-pipe some distance above the stove, else the stove will not draw well, and will trouble from smoking. A second pipe of 4 or 6 inch tile also passes from the bottom of the cellar through the wall and thence beneath the frost-line for one or two hundred feet through the earth, when it comes to the surface, and the end is protected against vermin by use of a wire-screen.

We can easily see that whenever the kitchen stove is used—daily—the air is drawn from the cellar, and the out-door air warmed in winter and cooled in spring and summer is drawn through the tempering soil into the cellar. I have known of this arrangement being tried in many cases, and always with the best results.

If it is feared that water may enter the cellar through the sub-earth pipe, the joints may be sealed by use of cement, or arrangements made to drain at the lowest point. This arrangement not only protects against extremes of temperature, but it serves ever to keep the cellar sweet. Mr. D. A. Jones, of Canada, builds above ground, when it becomes necessary to have the building double-walled, with a 30-inch space filled in with saw-dust, not only on the sides, but above as well. Others dig a pit in a side-hill. These methods are only inferior to a cellar in that they are more difficult to regulate. Mr. Jones not only has the sub-earth arrangement, but he is forced to provide ice-boxes in the warm days of spring in order to protect against too great warmth. In all these cases good, close double-doors should be made, and the rooms should surely be mouse-tight.

Packing.—Many bee-keepers have succeeded well by packing. Messrs. Southard and Ranney, of Kalamazoo, Mich., have practiced packing of single hives with marked success. They place a box about each hive 6 inches distant on each side. This space they pack very closely with straw. They also put a chaff sack in the upper chamber of the hive, are sure to have the covers on the hive close-fitting, and then pack well above with straw, when they add a cover to keep the straw dry. These gentlemen attribute their success to careful, thorough packing, and also covers above the bees and beneath the packing. The packing extends close down to the earth. A tunnel at the entrance permits the bees to fly if suitable weather entices them out. Others, like Mr. Bingham, of Allegan, county, Mich., are very successful in the use of packing, but put 6 or 8 hives close side by side and pack snugly about all. In this case the entrances all face outward, and a tunnel at each hive permits flight.

So many who employ packing lose their bees that I can but think that the latter method named above is preferable for the average bee-keeper, if either is to be practiced. Many others use chaff-hives, and some with success. Such hives are expensive, cumbrous, and in view of the extensive losses by those using them, I question their desirability. From the great saving of food consumed by the bees, and the comparative freedom from danger, I feel that cellar-wintering is far preferable in this climate, to all other methods. This conclusion is formed only after many years of careful experiment. Other methods may succeed: this with proper pains surely will.

Ventilation.—If the cellar is all right—*surely so*—the entrance to the hive may be left wide open in the cellar. If it becomes too cold, less ventilation is imperative; if too hot, more may be required; but we must be sure to keep the temperature right. I feel positive that with the proper temperature we need not fear the presence of pollen or bee-bread in the hive. If the cellar becomes too cold or too hot, in either case the bees become disturbed, and then I feel certain, after many experiments, that the bees are safer with no pollen; yet such a disturbed condition is always dangerous. The fact is we *must be able to control, and must control, the temperature.*

The Cover.—As already stated the cover should be a non-conductor of heat. Cloth with a filling of fine chaff or fine dry sawdust serves well. In winter I prefer to have a factory cloth over the bees and a burlap sack full of dry sawdust still above the cloth.

METHOD OF PROCEDURE.

As soon as we have a frost to stop storing honey, I place 6 or 8 frames where they are desired for winter. These should be nearly full of honey. Place a short stick above the frames at the centre so the cloth cannot fit close to the frames. This permits the bees to pass over. As soon as the brood is all hatched, remove all other frames and pack well above and at the side of the bees. If colonies are to be packed out-doors, do it now. From Nov. 1 to 20, before severe weather, place the bees in the cellar, open the hive-entrances, and remove the covers, but do not remove the cloth or burlap sack.

If the cellar is as described, the bees will remain very quiet and free from diarrhea. If they are in a poor cellar, and so become diarrhetic, it is best to remove them from the cellar for a few hours some warm day when they can have a cleansing flight, and then return them to the cellar. It is always best when taking colonies from the cellar to place them on the same stands from which they were removed when carried to the cellar. We should not remove the bees finally from the cellar till they can go to work in the spring. In Central Michigan this is not before April 10 or 15.

In the spring when the bees are placed on the stands, I would clean all of the hives out thoroughly (this should be on a warm, quiet day), remove frames of comb, and move up the division-board so that all the frames left will be covered with bees. I should also cover above them and protect at their sides with ample packing. I have found that bees in single-walled hives thus protected do as well in spring as those in chaff hives. As the bees increase more frames should be added, and so soon as the bees can protect the brood, the weaker may be strengthened by receiving capped brood from the stronger, but never so rapidly as to endanger the brood from chilling. Such has been our practice here at the College, and our apiary has not been troubled by loss from "spring dwindling."

I feel very sanguine that if the foregoing suggestions are heeded, winter losses will cease to vex our Northern bee-keepers.

Agricultural College, ♀ Mich.

For the American Bee Journal.

Bee-Keeping in Maine.

J. B. MASON.

I think it can safely be said that this year Maine has had a good season for honey, especially the western part of the State. Last winter was a hard one on the bees, and probably caused the heaviest losses for 20 years, so bee-keepers felt rather "blue" in some parts of the State. The spring was very backward, and colonies were very weak, but as the maples began to put on their dress of red, the bees aroused from their stupor, and went at it with a will. Fruit trees blossomed profusely, and the bees made a good start on it, when rainy weather cut them off so that they lost the principal part of that run; although the few days they did work upon it, gave them more honey than has been obtained from that source for several years. Then came white clover and red raspberry which furnished our surplus. This usually is of about three week's duration, while this year it continued through the entire season in some parts of the State.

The season has been what might be called wet, and in the western part there has been a continuous flow of honey from the time white clover commenced to bloom until the frost killed the flowers. Strong colonies commenced to swarm in the first of June, when left to their own instincts, a great many swarming three times, when they built up strong and went right over the ground the second time. Nearly all prime swarms swarmed twice and three times, and some second-swarms cast swarms. In my yard of from 100 to 150 colonies I have not seen a drone molested by the worker bees through the entire season until October.

The crop of honey in this section is large, and the increase is immense, so that what bee-keepers lost last winter they have more than made up. Bees have been gathering honey so late, and when the weather was so cold, that they are very much reduced, and colonies will go into winter quarters heavy in honey but light in bees.

It was but a few years ago that the bee-keepers of Maine looked with distrust upon the reports of 100 pounds from a colony, that was occasionally reported by Western bee-men; but with improved implements and modern management, to-day many Maine bee-keepers can report 100, and even more, pounds of comb honey from a single colony. Bee-culture is progressing very rapidly in Maine. Bee-keepers are becoming enthusiastic, two associations—the Maine State and the Western Maine—have been organized within the last few years, besides several county associations, and a much larger exhibit at the State Fair was made this year than ever before, which attracted much attention and called out many comments through the local papers.

Mechanic Falls, ♀ Me., Oct. 20, 1885.

For the American Bee Journal.

Observations in Apiculture.

W. M. WOODWARD.

The following are the results of my studies and experiments in the bee-yard, and are drawn wholly from my own observation; but I think it will be found that they do not conflict with the general opinion of experienced and practical bee-keepers:

YOUNG BEES AS COMMONERS.

Young bees are free commoners, whether of any kind or race, so long at least as there is need or use for them in the hive. In Italianizing some of my colonies this year, I have had a good opportunity for observing the bees change from one hive to another, and have seen both drones and young workers pass directly from one hive to another, and enter either hive equally unmolested. After observing this, I felt sure that young bees might easily steal eggs from any hive to build queen-cells, as from 3 colonies of Albinos nearly all of my black colonies received more or less yellow bees. This will explain some of the mysterious mixtures mentioned in a late number of the BEE JOURNAL. Doubtless they might begin the work of stealing honey, and the robbed colony becoming used to them, would in some cases allow them to continue robbing all their lives.

RACES OF BEES.

The various races of bees, with me, show some marked traits both good and bad, some of which I have not seen mentioned in the bee-papers. Black bees hardly ever leave a window to escape from a room, but worry themselves out and die trying to escape through the glass. My Albinos fly from window to window and from door to door, almost like hornets, but they always effect their escape alive. They are much more sure, both on foot and on the wing, than are the blacks, almost always alighting at the entrance all right; when the blacks miserably fail. But, the general opinion notwithstanding, I find them much worse inclined not really to rob but to search for forbidden sweets. I also notice that they are more active in all their operations. In cleaning and scrubbing up their home they move two or three steps, while the blacks merely stretch out a little, but do not move the posterior feet.

LARGE HIVES VS. SMALL HIVES.

After using large hives for two seasons, and closely observing the results, I find that, as a general thing, from once to once and a half the space actually used for brood-rearing purposes is all the surplus room, or rather honey-space, required in any hive; hence no hive is the better for being any larger than can be well filled with brood throughout; and by tiering-up, using three tiers of 4¼x4¼ sections, there is room enough for any colony of bees to work to advantage over the frames really occupied with brood.

SECTIONS WITHOUT SEPARATORS.

I have used all sizes of sections from 1½ to 2 inches wide, with and without separators, and I must say that I find no difference on account of the width. I can get 2-inch sections filled as nicely as any, if the bees do not (as they do occasionally) build an extra piece of comb down between the right ones. The point to be observed, in getting nice comb honey, is to have the cases crowded equally with bees in every section throughout, and one can laugh at any man's claim of a "race" or "strain" as being "straight comb builders." I have used wide sections in the centre and small or narrow ones outside with as good results as in any other way. They will then be finished and sealed at about the same time. I prefer them to average 1 pound scant, and I like them about 7 to the foot, or 1¾ inches wide, without separators.

SIDE-STORING VS. TOP-STORING.

Although no more room is needed (nor is it desirable) in a hive for comb honey at least, than will be well filled with brood during the breeding season, yet comb honey can be produced and finished off at the side without separators, in as fine a shape as it is possible to do on the top. This I have had done for two seasons in a side case made on the Heddon-case principle, using the edge or the side-piece of the section to the brood-frames. The case has room for two tiers, each of which rests in a 4¼-inch box without bottom, although a bottom ⅛ of an inch thick is used as a bee-space below, to shield from bee-bread. The bottom side-pieces of these cases and the bottom-pieces are nailed on, but the upper side-pieces are slipped behind pieces of tin, turned ¼ of an inch from the edge and nailed on each corner at the ends, so that when turned bottom upward the top row of sections drop out with a little jar, as will also the bottom row if jarred harder. The bees build the comb from the side, and as straight or straighter than from above; and of perhaps 100 cases I have had but one to contain a cell of bee-bread, and that was caused by allowing the queen to become crowded for room in the frames.

INTRODUCING QUEENS.

Introducing queens by Mr. Alley's method, of allowing the bees to be queenless for three days, is a dangerous business unless every sign of a queen-cell is carefully destroyed before the new queen is put in; but when this precaution is taken, it is safe. One of the best ways to introduce queens is to remove the old one and shake the bees into a new empty hive at dusk, and leave them there shut up until morning, then feed a little and daub the new queen with honey and drop her in among the bees. Then give them frames of foundation the same as a swarm. Having nothing to defend they are in a good condition to double up, to receive a queen, or anything else for that matter. I never fail to unite colonies where I can serve them thus and unite them before giving back their combs, which should be well mixed through the hive, and all queens but one taken away.

Custer, ☌ Ills.

For the American Bee Journal.

Economical Brood-Chambers.

C. W. DAYTON, (63—116).

I prefer a small hive rather than a large one, because it is honey that I am after, and because it is next to an impossibility to get more than 8 or 9 combs well filled with brood, taking the apiary clear through, by the time of the first yield of honey from white clover. When a colony goes on to fill 12 combs with brood it usually takes until the honey harvest is half, and sometimes all over before the colony is in good condition for honey-gathering. If there were 15 days more of June weather previous to the honey-flow, I should not now be reducing the size of my larger colonies. A cold spring does not seem to retard the growth of clover, as it does the rearing of brood and the building up of a colony of bees. I believe that queens that would not be capable of laying 3,000 eggs per day are scarce in my apiary; but where I fail is in getting them to do it previous to the first yield of honey from white clover, which is the main dependence in this locality. Perhaps the sandy soil here, which hastens the blossoming of the clover but does not effect brood-rearing, may have something to do with the matter.

When the clover begins to yield honey, which is about June 10 in this locality, I would be pleased if there were no more eggs laid until July 25 (at about which time the honey-flow from white clover and basswood ends), as all eggs whith are laid during that time produce only idle "boarders," and there is seldom any more honey to gather before Sept. 10, and then only enough to cause the hives to be filled with young bees for wintering. If the bees do not enter the surplus receptacles for the want of the room, then it would be better that such receptacles be left off the hives.

The number of combs of brood that a colony has in its hive at the beginning of the honey harvest, when it lasts not more than 37 days, is the greatest number that can economically be afforded at any time during the harvest, when honey alone is the consideration. In this locality that number, unless in exceptional cases, is from 7 to 10 combs which, under ordinarily good management, should be filled solidly. In Mr. Dadant's locality I should judge the number to be from 11 to 14 combs.

A test on 48 colonies during the past season resulted as follows: From 8-frame hives I extracted on June 19 and 27, July 9, 14 and 22, and obtained an average of 76 pounds per hive; from 12-frame hives I extracted on July 13 and 21, and obtained an average of 71 pounds; and from 16-frame hives I extracted but once, on July 23, and obtained about 69 pounds of honey from each. The colonies were furnished upper stories the same size as the brood-chambers. Two colonies out of the 48 cast swarms, having been allowed to cap queen cells before adjusting the surplus receptacles.

On page 666, Mr. Dadant says that "a hive is too small if it does not allow the queen to lay to the utmost of her breeding capacity previous to the honey crop. Disprove it who can." As the word "previous," as used by him in the foregoing sentence, may occupy a very broad field, it cannot be disproved; but provided the honey harvest lasted not more than 15 or 20 days, as that from white clover has been known to do, it would be wisdom to shut down on brood-rearing 15 or 20 days before the arrival of the honey harvest. (Through a lack of success in prophesying as to the weather so far ahead, I have not tested this plan very thoroughly). In case of exceptionally strong colonies, as bees labor as well when they are in one colony as they do when they are in another, there would be nothing detracted by sensibly exchanging the combs of a strong colony for those of a weaker colony, getting another queen at lively business, and eventually having two strong colonies where there would have been only one.

In imitation of the more experienced, I will make my assertion, which is, that the size of the brood-chamber must be ascertained with regard to the locality or the length of the flow of honey. In quoting authority on this subject, Mr. Dadant should not confine himself to his own latitude, nor that of Cincinnati or Oxford, Ohio, as he has done on page 535; but he should come up North where we have longer and colder winters which tend to bring the colonies out weaker in the spring, and requiring a longer time in which to nurse them up to the proper strength. Without much doubt a 12-frame hive is best for Mr. Dadant's locality, and an 8-frame hive the best for the locality occupied by Mr. Heddon.

Bradford, ☌ Iowa.

Country Gentleman.

Shipping Bees and Honey.

W. Z. HUTCHINSON.

While attending the Fairs this season, I met a bee-keeper who was berating one of the express companies. He had sent a colony of bees to be exhibited at the Fair, and the express company had "smashed it all up." This he finally modified to "broke the combs all down, and the honey ran out and drowned the bees." He had sold the hive and contents, and the purchaser had "strained" the honey and secured 40 pounds! This, of itself, was almost an explanation. No colony of bees should ever be shipped with 40 pounds of honey in the hive. Enough to last them on their journey is all that is necessary. A strong colony, confined to its hive, and disturbed, in warm weather, generates a large amount of heat, and combs that are heavy with honey are almost certain to become so soft as to break down—unless they are very old and tough.

The bee-keeper whose combs melted down, said: "I have had little experience, and I thought I would bring a colony of bees to the Fair, and perhaps I might meet some other bee-keeper and learn something." I thought he had learned at least one lesson. As he was inexperienced, he perhaps selected a colony of the present year, the combs of which were new, tender and full of honey, and the bees probably had no ventilation, except at the top of the hive. The weather was really summer weather, and the probabilities are that the combs would have broken down, even if the hive had been handled in the most careful manner.

In hot weather, or if the bees are to be confined any great length of time, there must be openings in the bottom as well as the top of the hive, in order that there may be a current of air to carry away the super-abundant heat. Not only is an abundance of ventilation necessary, but there is also needed plenty of room. There should be a space of 3 or 4 inches both above and below the combs. In the heat of the day the bees cluster in these spaces, returning to the combs at night, or if the weather turns cool.

It has been many times recommended that sticks be thrust down between the combs, at the ends of the frames, to prevent the combs from sliding about and swinging against each other, but I have had better success when no sticks were used, the frames being fastened simply by nailing their ends with 1½-inch finishing nails to the rabbet of the hive. (The heads of the nails should be allowed to project ¼ of an inch, in order that they may be readily drawn out.) When fastened in this manner, the frames cannot slide about, neither can they swing together close enough to injure the bees, while their not being fastened at the bottom allows the frames to move slightly under the influence of a sudden jolt, which assists the combs materially in sustaining the shock without injury. When sent by express, it is not very material which end of the hive is placed forward, but when sent by freight, it is an essential point, as the car is always started with a jerk, and, unless the combs are parallel with the track, they are apt to be swung together or broken out.

One hundred colonies of bees were sent to the Exposition at New Orleans, and in order to get them into the car, it became necessary so to place ten hives that the frames were crosswise of the track. The 10 colonies in these hives were dead when they arrived, while the others were in fair condition. A placard attached to the hive should request that everybody will "Please handle with care and keep out of the sun." When sent by freight, "This end forward," should be the reading upon another placard, so attached that when the request is obeyed, the frames will be parallel with the track. Unless the distance is short, and there will be no transfers, it is seldom advisable to send bees by freight, unless some one can accompany them. If shipped at a time when there is much unsealed brood in the hives, much of it will perish, unless the bees are furnished with water—the bees robbing the larvæ of their food to quench their thirst. If somebody accompanies the bees, he can sprinkle them daily. If sent by express or freight, and no one goes with them, the best that can be done is to place a large sponge under the wire-cloth, at one corner of the hive, and saturate it with water. If the bees are going a long distance, it might be well to attach to the hive a request that the express agent moisten the sponge daily at noon. Colonies very strong in numbers seldom bear shipment so well as weaker ones—a medium-sized colony often containing more live bees, when reaching its destination, than a very populous one.

SHIPPING HONEY.

Large crates should be avoided in shipping comb honey, as a heavy crate is much more likely to be "dumped" than a smaller one. A crate should be light but strong. The honey should never be depended upon to keep the crate in shape, but *vice versa*. Crates only one tier of sections high are best; if higher than this, and any of the upper sections are injured, the honey runs down and daubs the lower sections. Small crates are more salable than large ones. There should always be glass in at least one side of a crate, in order that all who handle the honey may see what is being handled; this will secure more careful handling than to cover the crates with cautionary placards. When placing the crates in the car, they should be so placed that the combs are parallel with the track, the same as in shipping bees; this, however, is not so important as in shipping bees, as the combs are much smaller, some thicker, and there are no bees present to heat them. One disadvantage is, that the combs are new and tender, but there is not much danger of breakage, if the combs are well attached to the sections. Reversing the sections when they are nearly finished will induce the bees to attach the combs all around.

There is much less danger of shipping comb honey in warm weather, as the cold makes the combs more brittle. Much of the damage done to comb honey in shipping is done by the freight handlers in unloading it, and it is well for the shipper, if he has a large lot, to have his railroad freight-agent mark on the margin of the way-bill the following: "Please notify consignee before unloading;" then the consignee can see to the unloading himself.

Extracted honey should be shipped in kegs that will not contain more than 150 pounds; larger packages are more difficult to handle, and more apt to be injured, and the honey lost by leakage. To prevent barrels from leaking, they are sometimes coated on the inside with wax or paraffine. The barrel should be warmed, and the wax as hot as possible. The hotter the wax and the barrel, the thinner will be the coating of wax. As soon as the wax is poured in, the bung should be driven in, and the barrel rolled about so that the wax may touch all parts; then the bung can be removed, and the wax poured out. It is poor policy to use second-hand barrels, or those that need waxing; it would be better to use good, new packages that need no waxing. Kegs made of spruce, holding 100 pounds each, have given me the most satisfaction. They should be *scalded* with hot water before putting in the honey; but no wooden package should ever be soaked with water before putting honey into it, for the reason that honey has the peculiarity of absorbing the water from the wood with which it is in contact. Have the barrels or kegs as dry as possible, and the hoops tightly driven and nailed. After honey has crystallized in a keg or barrel, it will, of course, bear almost any kind of handling without danger.

Both comb and extracted honey can be more safely sent by freight than by express; especially is this true in shipping comb honey, for the reason that express matter must, of necessity, be handled so rapidly. At our last State Fair, I heard three men bemoaning the damage to their comb honey by express companies, while all the honey sent by freight was in fine condition.

Rogersville, ♂ Mich.

☞ The Central Michigan Bee-Keepers' Association will meet in the Pioneers' Rooms in the State Capitol, at Lansing, Mich., at 9 a. m., on Nov. 12, 1885. All who have bees or are interested in bee-culture, are invited to attend.
E. N. WOOD, *Sec.*

SELECTIONS FROM OUR LETTER BOX

My Report.—Wm. Seitz, Hustisford, ○+Wis., on Oct. 24, 1885, says:

Last winter I put 50 colonies of bees into winter quarters, and 13 of them came out all right in the spring. I then bought 6 colonies, thus commencing the season with 19. I increased my apiary to 45 colonies, by division, and obtained 295 pounds of extracted honey.

Wintering Nuclei.—Edward Moore, Barrie, Ont., on Oct. 27, 1885, says:

I have 2 nuclei colonies for which I have made 2 boxes, allowing about an inch of space between each hive and the box. The boxes are lined with thick brown paper, and the hives rest upon sticks an inch square. I hope to winter them successfully.

Excellent Report.—Thos. C. Stanley, Boyleston, ♀ Ills., on Oct. 24, 1885, says:

Last winter out of over 900 colonies of bees I lost 750; the balance I have increased to nearly 600 colonies this season, and have secured a surplus of 12,000 pounds of comb honey.

My Honey Crop, etc.—C. A. Hallegas, De Kalb Junction, ♂ N. Y., on Oct. 18, 1885, writes:

I commenced the season with 64 colonies, increased them to 116, and have taken 3,300 pounds of comb honey. I had no honey stored in the sections until basswood bloomed, which was about July 15. I winter my bees in the cellar, with a temperature from 40° to 52°, and they have always come out in the spring in good condition.

100 pounds per Colony.—G. E. T. Kyber, Green Bay, ○+ Wis., on Oct. 29, 1885, says:

My losses of bees last winter were very heavy, but in spite of the cold, disagreeable summer weather, I have managed to obtain a surplus of about 100 pounds of nice white honey from each colony, spring count.

The Wisconsin Bee-Suit.—S. I. Freeborn, Richland Centre, ♀ Wis., on Oct. 28, 1885, writes:

Our famous case was disposed of in the Circuit Court here to-day. It was dismissed by Judge Clementson, because he considered that there was no cause of action, and the jury was discharged. The case can now be argued before the Supreme Court, and if it is determined that there is cause for action, then it will be remanded for trial here upon the Supreme Court's rulings. It is not probable, however, that it will be done. The bee-men that were present are jubilant. This may be the end of legal proceedings, and we hope it will, but the prejudice and envy that may have been the animus of this prosecution will still exist. Will it ever become enlightened ?

Honey and Beeswax Market.

Office of the AMERICAN BEE JOURNAL,
Monday, 10 a. m., Nov. 2, 1885.

The following are the latest quotations for honey and beeswax received up to this hour :

CHICAGO.

HONEY.—It is in good demand, and for the best grades of white comb honey 15@16c. is obtained. Off-colored and dark find very slow sale. Extracted is steady at 5@8c. per lb.

BEESWAX.—24@25c. Offerings of honey and wax are light.

R. A. BURNETT. 161 South Water St.

BOSTON.

HONEY.—It is selling very well but prices are very low, and we are often obliged to shade our prices in order to make rates. We quote comb honey in 1-lb. sections at 14@16c., and 2-lb. sections at 12@14c. Extracted, 6@8c.

BEESWAX.—30 cts. per lb.

BLAKE & RIPLEY, 57 Chatham Street.

NEW YORK.

HONEY.—The market for comb honey is quite active, and the demand nearly equal to the supply. Prices are gradually shading, owing to the fact of many producers selling their entire crop in this city at very low prices, thereby enabling the purchasers to sell low and realize a handsome profit. Large lots have been sold here at 9@10c. for fancy goods. In consequence of no honey coming in from the West, we can see no reason why good prices should not be obtained, except as above stated. Present quotations are : Fancy white 1-lb. sections, 14@15c.; the same in 2-lb. sections, 11½@12½c.; fancy buckwheat honey in 1-lb. sections, 11@12c.; in 2-lbs., 9@10c. Off grades 1 to 2c. less.

BEESWAX—Prime yellow, 25@28c.

MCCAUL & HILDRETH BROS., 34 Hudson St.

CINCINNATI.

HONEY.—There is no material change in the market. Demand is slow for manufacturing purposes, while the trade is fair in comb and extracted honey for table use. Arrivals are good. Choice comb honey brings 14@16c. per lb. in a jobbing way, and extracted honey, 4@8c., according to quality.

BEESWAX.—Home demand is fair, and it brings 20@22c. for choice yellow, on arrival.

C. F. MUTH, Freeman & Central Ave.

SAN FRANCISCO.

HONEY.—Arrivals are quite light, with a probability of so continuing through the balance of the season. There is some inquiry for best qualities, with a firm market for the same. Quotations are as follows : White to extra white comb, 9@11c.; dark to good, 5@8c. Extracted, white liquid, 5@5½ cts.; light amber colored, 4½@5c.; amber and candied, 4¼c.

BEESWAX.—Quotable at 23@25c., wholesale.

O. B. SMITH & CO., 423 Front Street.

CLEVELAND.

HONEY.—The market since our last report has improved very much and there is a good opening for very choice white 1-lb. sections, for which 14@15c. is obtained Our stock of new is very light at present but of the old we have a good supply which we sell at 10@13c. for white 1-lb. sections. Extracted honey is slow at 6@7c. for best white clover and basswood.

BEESWAX.—Very scarce at 20@22c.

A. C. KENDEL, 115 Ontario Street.

KANSAS CITY.

HONEY.—The demand for all kinds of honey is good and prices are much improved. Choice 1-lb. sections bring 16@17c. on arrival, and demand is in excess of receipts. It would be better to ship now while the weather will admit, as it will come in good shape and bring good prices. Two-pound sections are sold now nearly altogether from California stock, as it is cheaper than any other kind; 12½@14c. being the ruling rates for it. Extracted is in fair demand at 4@5c. for dark, and 6@8c. for light.

BEESWAX.—It is a little firmer at 23c. for good average.

CLEMONS, CLOON & CO., cor. 4th & Walnut.

◆

The Guide and Hand-Book, is a book of ready reference and an encyclopædia of everything desirable to know. As a guide to the home-seeker, it is invaluable. Its contents are partially given on page 701, and will convince any one of its value. We do not think any of our readers can afford to do without it. As a book of ready reference we find it of great value in our library. We will send the Weekly BEE JOURNAL for a year and the Guide for $1.30.

Bee-Keepers' Union.

Addenbrooke, W.,
Allen, Ransom,
Alley, Henry,
Anderson, J. Lee,
Anderson, Wm.,
Angell, C. S.,
Aspinwall, Jno.,
Babb, Enoch,
Baldwin, A. A.,
Baldwin, B. T.,
Baldwin, L. W.,
Ball, Miss J. M.
Barnes, Wm. M.,
Barrows, O. B.,
Baxter, E. J.,
Bean, C. M. & W. L.
Bernschein, Ernst,
Besse, H., M. D.,
Billings, L. P.
Billing, Peter
Bitzer, Wm.,
Blanchard, O. C.,
Blount, C. N.,
Bohn, Gustav,
Bray, Moses,
Brickey, Peter,
Brown, A. J.,
Buchanan, J. W. & Bro,
Bucklew, J. A.,
Burrell, H. D.,
Burton, L.,
Camp, C. A.,
Camp, G. W.,
Carder, A.,
Chapman, B.,
Chapman, J.,
Cheney, H. H.,
Christian, P. J.
Christie, Jno. H.,
Clarke, Rev. W. F.,
Clickenger, Earlle,
Connley, John T.,
Cook, Prof. A. J.,
Cripe, Henry,
Dadant, Chas.,
Dadant, C. P.,
Darby, M. E.,
Dayton, C. W.,
Deadman, G. A.,
Decker, A. A.,
Decker, C. K.,
Demaree, G. W.,
Dibbern, C. H. & Son,
Dickason, T. B.,
Didrickson, O.,
Dittmer, Gus,
Dodge, U. E.,
Doolittle, G. M.,
Dorr, Dr. H R.,
Downs, Robert,
Drane, E.,
Drew, Wm.,
Dunham, P.,
Dunn, John,
Eaglesfield, E. C.,
Eastwood, L.,
Edson, A. S.
Elwood, Sr., W. R.,
Falsoner, J.,
Feathers, Harvey,
Flanagan, E. T.,
England, P. J.,
Enke, Wm.,
Follett, Charles,
Forbes, W. E.,
France, E. & Son,
Freeborn, S. I.,
Fulton, W. K.,
Funk, H. W.,
Furness, Dwight,
Gander, A. M.,
Gibson, F. A.,
Goodrich, A. S.,
Green, Charles H.,
Greening, C. F.,
Greiner, G. C.,
Greiner, Friedemann,
Gresh, Abel,
Grimm, Christopher,
Griswold, Fred,
Harding, Benj.,
Harlens, J. G.,
Harrison, S. H.,
Hart, F. M.,
Haskin, A. S., M. D.,
Hatch, C. A.,
Havens, Reuben,
Hayhurst, E. M.,
Heater, Mrs. J. N.,
Heddon, James,
Hensley, J. P.,
Hettel, M.,
Hill, A. G.,
Hills, Mrs. H.,
Hilton, George E.,
Hobler, Geo.,
Hogue, R. M.,
Hoke, Abe,
Hollingsworth, C. M.,
Howard, J. B.,
Hoyle, George H.,
Huse, Wm. H.,
Hutchinson, W. Z.,
Hyne, James M.,
Illinski, Dr. A. X.,
Isham, H. B.,
Jackson, Andrew,
Jardine, Jas.,
Jones, George W.,
Jones, Henry,
Jones, J. H.,
Killough, J. M.,
King, D. N.,
King, T. Frank,
Knickerbocker, G. H.,
Koeppen, August
Kruschke, H. O.,
Kyber, G. E. T.,
Lammey, John,
Langstroth, Rev. L. L.,
Lanning, John,
Lawton, B. W.
Le Roy, J. W.,
Lindsly, L.
Ludkey, Charles,
Ludloff, K.,
Lyman, W. C.,
Lynch, Jno. C.,
Maddox, W. T.,
Mahin, Rev. M.
Mallory, S. H.,
Manum, A. E.,
Marden, Henry,
Margrave, J. W.,
Mason, Jas. B.,
Mattoon, Jas.,
McConnell, James,
McCormick, Emery,
McGee, Charles,
McLees, S.,
McNay, Frank,
McNeill, James,
Millard, D.,
Miller, B. J. & Co.,
Miller, Dr. C. C.,
Miller, Henry,
Mills, L. D.,
Minnich, F.,
Minor, N. L.,
Morse, William,
Muth, C. F.,
Muth Rasmussen, Wm.,
Nelson, James A.,
Newman, Alfred H.,
Newman, S M.,
Newman, Thomas G.
Nipe, James,
Natt, W. C.,
Ochsner, J. J.,
Osburn, A. W.,
Owens, J. J.,
Parker, D. G.,
Payn, W. N.,
Pennoyer, L. A.,
Perkins, Nelson,
Peters, Geo. B.,
Peters, Jno.,
Phelps, N. T.,
Pond, Jr., J. E.,
Powell, E. W.,
Pray, G. L.,
Rainey, Jarvis,
Raisch, H.,
Reed, L.,
Reed, L. G.,
Rey, John,
Reppert, F.,
Reynolds, M. G.,
Richards, Wm.,
Roberts, Jesse H.,
Root, A. I.,
Rose, C. H.,
Rowe, David,
Roye, Burr,
Salisbury, S. W.,
Schaper, E. F.,
Scheuring, Paul,
Seabright, L. C.,
Sears, J. W.,
Secor, Eugene,
Shapley, D. L.,
Shearman, J. O.,
Shepard, Horace,
Shirley, W. H.,
Shuck, J. M.,
Slade, W. D.,
Smith, David,
Smith, George,
Smith, Mrs. Martha,
Snell, F. A.,
Spady, Jno.,
Spencer, M. L.,
Stearns, J. R.,
Stephenson, H. W.,
Stephens, W. B.,
Stewart, W. H.,
Stocker, Wm. S.
Stolley, Wm.,
Stordock, C. H.,
Storer, E. M.,
Sumner, T. B.,
Talbert, M.,
Taylor, George,
Taylor, R. L.
Thatcher, Will.,
Theilmann, C.,
Thompson, Geo. M.,
Tinker, Dr. G. L.,
Tongue, L. N.,
Travis, F. W.,
Travis, I. A.,
Treadwell, W. B.,
Trimberger, John,
Turner, T. E.,
Twining, M. J.,
Tyner, Alonzo,
Vanbouten, C. W.,
Valentine, J. M.
Viallon, P. L.,
Walton, Col. R.,
Webster, H. S.,
Weeks, C.,
Wendt, Henry,
Whitney, W. V.,
Wicherts, A.,
Wilkins, Miss Lucy A.,
Wolcott, Wm. C.,
Wright, W. D.,
Wurth, Dan.,
Zwiener H. L.

WEEKLY EDITION
OF THE
AMERICAN
ESTABLISHED IN 1861
OLDEST BEE PAPER IN AMERICA
BEE JOURNAL

PUBLISHED BY
THOMAS G. NEWMAN & SON,
PROPRIETORS,
923 & 925 WEST MADISON ST., CHICAGO, ILL.
Weekly, $2 a year; Monthly, 50 cents.

ALFRED H. NEWMAN,
BUSINESS MANAGER.

Special Notices.

SPECIAL NOTICE.—On January 1, 1886, the price of the Weekly BEE JOURNAL will be reduced to *One Dollar a Year*. This we have contemplated for some years, and only awaited the proper time to warrant us in issuing the Weekly BEE JOURNAL at the very low price of *one dollar* a year. That time has now come. We shall continue to improve the BEE JOURNAL, and it will maintain its proud position as the leading bee-paper of the World !

New subscribers will be supplied with the Weekly from now until the end of the year 1886, for **$1.25.**

Those who have already subscribed for any portion of *next year* will have the time beyond January 1st doubled. These changes in the mail-list type are already made.

◆

" Don't Stop "—that is what many write to us about their papers, when their time is nearly out. One subscriber says : "This has been a year of disaster, and it is not convenient for me to send you the money now to renew my subscription. It runs out with this month ; *but don't stop sending it*. I will get the money to you within three months." Such letters are coming every day, and so for the present we have concluded not to stop any papers until requested to do so.

◆

Agents can sell the Guide and Hand-Book like "hot-cakes." Send us an order for five copies (with $2.50) and we will send you the Weekly BEE JOURNAL *free* for a year. This is a *rare* opportunity to get the Weekly BEE JOURNAL without cost ! !

◆

☞ The Town Topics Publishing Co., 23 Park Row, New York City, publishers of TOWN TOPICS (formerly the *American Queen*), one of the most entertaining weekly journals of the country, are offering to subscribers prizes of $100 cash, to be won on conditions that seem very liberal. Judging from their circular, the plan is decidedly ingenious and entertaining, and will doubtless meet with great success. Full particulars may be learned from circulars which will be sent from their office in New York on the receipt of a one-cent stamp.—*adv.*

Local Convention Directory.

1885. *Time and place of Meeting.*

Nov. 5, 6.—N. J. & Eastern, at Trenton, N. J.
Wm. B. Treadwell, Sec., 16 Thomas St., N. Y.

Nov. 12.—Central Michigan, at Lansing, Mich.
E. N. Wood, Sec., N. Lansing, Mich.

Dec. 8—10.—Michigan State, at Detroit, Mich.
H. D. Cutting, Sec., Clinton, Mich.

Dec. 8—10.—North American, at Detroit, Mich.
W. Z. Hutchinson, Sec., Rogersville, Mich.

Dec. 8-10.—Northwestern, at Detroit, Mich.
W. Z. Hutchinson, Sec., Rogersville, Mich.

Dec. 11.—Northeastern Kan., at Hiawatha, Kan.
L. C. Clark, Sec., Granada, Kan.

1886.
Apr. 27.—Des Moines County, at Burlington, Iowa.
Jno. Nau, Sec., Middletown, Iowa.

☞ In order to have this table complete, Secretaries are requested to forward full particulars of time and place of future meetings.—Ed.

Honey as Food and Medicine.

☞ To create Honey Markets in every village, town and city, wide-awake honey producers should get the Leaflets "Why Eat Honey" (only 50 cents per 100), or else the pamphlets on "Honey as Food and Medicine," and scatter them plentifully, and the result will be a DEMAND for all of their crops at remunerative prices. "Honey as Food and Medicine" are sold at the following prices :

Single copy, 5 cts. ; per doz., 40 cts. ; per hundred, $2.50. Five hundred will be sent postpaid for **$10.00**; or **1,000** for **$15,00.** On orders of **100** or more, we will print, if desired, on the cover-page, "Presented by," etc. (giving the name and address of the bee-keeper who scatters them).

The Western World Guide and Hand-Book of Useful Information, contains the greatest amount of useful information ever put together in such a cheap form. The printing, paper, and binding are excellent, and the book is well worth a dollar. To any one sending us two *new* subscribers besides their own, with $3, for one year, we will present a copy of this valuable book.

☞ Our rates for two or more copies of the book, "Bees and Honey," may be found on the Book List on the second page of this paper. Also wholesale rates on all books where they are purchased "to sell again."

☞ **Sample Copies** of the Bee Journal will be sent FREE upon application. Any one intending to get up a club can have sample copies sent to the persons they desire to interview by sending the names to this office, or we will send them all to the agent.

Preserve your papers for reference. If you have no **BINDER** we will mail you one for 75 cents, or you can have one FREE if you will send us 4 new yearly subscriptions for the Bee Journal.

To Correspondents.—It would save us much trouble, if all would be particular to give their P. O. address and name, when writing to this office. We have several letters (some inclosing money) that have no name; many others having no Post-Office, County or State. Also, if you live near one post-office and get your mail at another, be sure to give the address we have on our list.

☞ **"BRICK" POMEROY** is publishing his Democrat at 234 Broadway, New York City, and like the Bee Journal he has reduced the price to $1 a year. He is offering cash inducements to agents who will get up clubs therefor. Sample copies will be sent free upon application.

Any person not a subscriber, receiving a copy of this paper, will please consider it an invitation to become a subscriber to it.

Convention Notice.

☞ The New Jersey and Eastern Bee-Keepers' Association having accepted an invitation to meet with the Mercer County Board of Agriculture, of Trenton, N. J., will hold their semi-annual convention in the Grand Jury Room of the Court House at Trenton, N. J., on Thursday and Friday, Nov. 5 and 6, 1885, at 10 a. m. A full attendance of the members is requested. To all persons interested in our vocation, we extend a cordial welcome. The committee of arrangements have secured hotel accommodations at reduced rates.

Wm. B. Treadwell, *Sec.*

Advertisements.

APIARY FOR SALE.

50 **COLONIES OF BEES** in ten-framed Simplicity hives, at **$4.00** each. For further information apply to **G. HILLJE,**
44A1t SCHULENBURG, TEX.

BEE-KEEPER'S HANDY-BOOK.

SEND for Prospectus and new Premium-List.

44Atf **H. ALLEY, Wenham, Mass.**

W. Z. HUTCHINSON,

Rogersville, Genesee Co., Mich.,

CAN furnish neat, white, basswood shipping-crates, in the flat, at 6 cents each. Sample, by express, nailed up, 10 cents.
44Atf

BEE-HIVES, SECTIONS,

FOUNDATION, &c.

WITH a capacity of 7,000 square feet of floor, we claim the best facilities for furnishing Supplies in the Southeast. **OUR NEW FACTORY IS EQUIPPED** with the best and latest improved Machinery, which enables us to furnish our goods "up to the times," and will furnish **all kinds at very reasonable prices.** Parties needing Supplies would do well to see our Price-List before buying. Send for Circular and Price-List. Address,

S. VALENTINE & SON, Hagerstown, Md.
44Ctf

HONEY

WE are now in the market, and will be during the entire season, for all honey offered us, in any quantity, shape, or condition—just so it is pure. We will sell on commission, charging 5 per cent.; or, if a sample is sent us, we will make the best cash offer the general market will afford. We will handle beeswax the same way, and can furnish bee-men in quantities, crude or refined, at lowest market prices. Mr. Jerome Twichell, our junior member in this department, has full charge, which insures prompt and careful attention in all its details.

Sample of comb honey must be a full case, representing a fair average of the lot. On such sample we will make prompt returns, whether we buy or not.

CLEMONS, CLOON & CO.,
36A17t KANSAS CITY, MO.

The Western World

GUIDE and HAND-BOOK

OF USEFUL INFORMATION.

For HOME SEEKERS or Tourists, Capitalists or Laborers. A vast amount of information not to be found elsewhere at any price.

A cloth-bound book, 4x7 inches, 288 pages

Price, 50 Cents.

The following is only a part of the Contents:

Colored Maps of all the States and Territories, including Alaska and District of Columbia.

Diagrams showing area, population, products, Government, State, School and Indian Lands of the several States.

Histories of each of the States from the Earliest Times.—Descriptive of their Topography, Soil, Climate, Rivers, Mountains, Natural Wonders, Population, Area, Islands, Lakes, Mines, Products, Manufactures, Industries, Cities, School Systems, Collection and Exemption Laws, Date of Holding Elections, Number of Representatives, Senators, Congressmen, and Presidential Electors, Number of Union and Confederate Soldiers in the Field, Price of Land Cleared and in Forest, Extent of Forest, Number of Different Callings, Rate of Interest, Usury Laws, PEDDLER OR DRUMMERS' LICENSE LAWS, DIVORCE LAWS, MINING LAWS, DESCRIPTION OF PUBLIC LANDS, LIST OF LANDS SUBJECT TO THE FORMS OF ENTRY, List of Land-Offices, Opportunities for Homes or Enterprise, Rainfall, Health, Ports of Entry, Population (male, female and foreign) Number of Indians, Mineral Resources, Nicknames of States and for whom or what they are named, Miles of Railroad and Canals, Tidal Frontage, STATE LAND LAWS, Religious Denominations and their Numbers, Number of Counties and Names.

Government Land Laws giving complete law on the subject of PRE-EMPTION HOMESTEAD, TIMBER CULTURE, SOLDIERS' HOMESTEAD, SWAMP LANDS, LAND WARRANTS, SCRIP, INDIAN TRUST LANDS, DESERT LANDS, COAL LANDS, TIMBER LANDS, MINERAL LANDS, AGRICULTURAL COLLEGE LANDS, ETC.

How to Acquire Lands of any kind belonging to the Government by any forms of entry, who may acquire them, and the different laws applicable to the different sections.

Postal, Pension and Patent Laws of the United States.

Coats-of-Arms of the States and Views of Celebrated Places, and of life in different regions.

Rules for measuring Lumber, Logs, Grain, Liquids, Tables of Weights and Measures of all kinds, Interest Rules and Tables, Lumber Tables.

Systems of Land Measures in various parts of the United States.

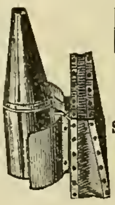
Contains also a Million useful facts.

The Weekly Bee Journal, for one year, and the Guide, postpaid, for $1.30.

THOS. G. NEWMAN & SON,

923 & 925 West Madison St., CHICAGO, ILL.

Dadant's Foundation Factory, wholesale and retail. See Advertisement in another column.



Bingham Smokers

AND

HONEY-KNIVES.

Send for Circulars.

Bingham & Hetherington,

ABRONIA, MICH.

Bees Given Away.

WE offer to give them to the one who sends us the largest number of subscriptions for the

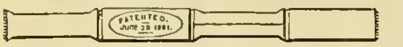
Newspapers and Magazines

which we FURNISH at WHOLESALE RATES. Send address on a Postal Card for particulars. E. H. COOK,
44A1t Andover, Tolland Co., Conn.

"BOSS" ONE-PIECE

SECTIONS.

Patented June 28, 1881.


PATENTED. JUNE 28 1881.

One-lb. (4¼x4¼) in lots of 500 to 4,000 $5.00
Ditto Ditto 5,000 to 10,000 4.50
Ditto Ditto 10,000 to 25,000 4.00

The one-lb. Section is 17 inches long. For any sizes between 17 and 20 inches in length, add 5 per cent. For any sizes between 20 and 24 inches, add 10 per cent. Add the above per centage to the price of one-lb. Sections in the same quantities.

We make any size or width desired.

J. FORNCROOK & CO.,
BCtf Watertown, Wis., Mar. 1, 1885.

☞ Thos. G. Newman & Son, of Chicago, sell the one-piece Sections manufactured by us.

HEADQUARTERS IN THE SOUTH

For the manufacture of

Bee-Keepers Supplies

Dunham and Root Foundation a specialty. Italian Queens and Bees from March to November.
☞ Send for my Illustrated Catalogue.
5Ctf **PAUL L. VIALLON**, Bayou Goula, La.

Friends, if you are in any way interested in

BEES OR HONEY

We will with pleasure send a sample copy of the **Semi-Monthly Gleanings in Bee-Culture**, with a descriptive price-list of the latest improvements in **Hives, Honey Extractors, Comb Foundation, Section Honey Boxes**, all books and journals, and everything pertaining to Bee Culture. *Nothing Patented.* Simply send your address *written plainly*, to
Ctf A. I. ROOT, Medina, O.

BEE-KEEPERS' GUIDE;

Or, MANUAL OF THE APIARY.

12,000 SOLD SINCE 1876.

13th Thousand Just Out!

10th Thousand Sold in Just Four Months

3,000 Sold Since May, 1883.

More than 50 pages, and more than 50 fine illustrations were added in the 8th edition. The whole work has been thoroughly revised, and contains the very latest in respect to bee-keeping. It is certainly the fullest and most scientific work treating of bees in the World. Price, by mail, **$1 25.** Liberal discount to dealers and to clubs.

A. J. COOK, Author and Publisher,
1Cly Agricultural College, Mich.

☞ For sale also at the Office of the BEE JOURNAL, at wholesale or retail.

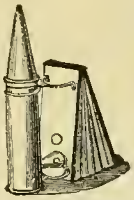
(ESTABLISHED 1864.)

BEE-SUPPLIES.

We furnish EVERYTHING needed in the Apiary, of practical construction, and at the **lowest price.** Satisfaction guaranteed. Send your address on a Postal card, and we will send you our Illustrated Catalogue free. **E. KRETCHMER,**
2C12t COBURG, IOWA.

HELP for working people. Send 10 cents postage, and we will mail you *free*, a royal, valuable sample box of goods that will put you in the way of making more money in a few days than you ever thought possible at any business. Capital not required. You can live at home and work in spare time only, or all the time. All of both sexes, of all ages, grandly successful. 50 cents to $5 easily earned every evening. That all who want work may test the business, we make this unparalleled offer: To all who are not well satisfied we will send $1 to pay for the trouble of writing us. Full particulars, directions, etc., sent free. Immense pay absolutely sure for all who start at once Don't delay. Address STINSON & CO.
51Aly Portland, Maine.

WIN more money than at anything else by taking an agency for the best selling book out. Beginners succeed grandly. None fail. Terms free. HALLETT BOOK CO.
51Aly Portland, Maine.



Bee-keepers' Supplies,

Standard Langstroth,

Quinby Standing-Frame,

And all other kinds of **Hives,**
MADE TO ORDER,

Quinby Smoker a specialty.

I shall supply anything you need in the Apiary. Send for Illustrated Price List.

W. E. CLARK, successor to L. C. Root,
7Aly ORISKANY, Oneida County, N. Y.

THE BRITISH BEE JOURNAL

AND BEE-KEEPER'S ADVISER.

The BRITISH BEE JOURNAL is published SEMI-MONTHLY, at Seven Shillings per annum, and contains the best practical information for the time being, showing what to do, and when and how to do it.

The British Bee Journal and our Weekly for $2.50.

THE INVERTIBLE HIVE!

INVERTIBLE FRAMES,

Invertible Surplus Honey Cases,
Entrance Feeders, Top and Bottom Feeders,
Hive-Lifting Device, Honey Extractors,
Wax Extractors, Comb Foundation, etc.

☞ My new Illustrated Catalogue is now ready, and will be mailed to all who may apply for it. Address,

J. M. SHUCK,
DES MOINES, IOWA.
10Aly

NEW ONE-POUND HONEY PAIL.

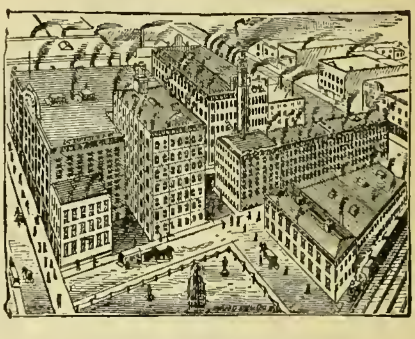
THIS **new size** of our Tapering Honey Pails is of uniform design with the other sizes, having the top edge turned over, and has a bail or handle,—making it very convenient to carry. It is well-made and, when filled with honey, makes a novel and attractive small package, that can be sold for 20 cents or less. Many consumers will buy it in order to give the children a handsome toy pail. **PRICE, 75 cents per dozen, or $5.00 per 100.**

THOS. G. NEWMAN & SON,
923 & 925 West Madison Street, CHICAGO, ILL.

A PRIZE. Send six cents for postage, and receive free, a costly box of goods which will help you to more money right away than anything else in this world. All, of either sex, succeed from first hour. The broad road to fortune opens before the workers, absolutely sure. At once address TRUE & CO., Augusta, Maine.
51Aly

COLUMBUS BUGGY CO.,

COLUMBUS, OHIO.



(View of our Factory.)

MANUFACTURERS OF

STRICTLY

FIRST-CLASS VEHICLES

At New Orleans World's Exposition was awarded 1st. Premium for finest display of Vehicles, against 64 Competitors.

The justly **celebrated Brewster** cross-spring **side-bar** being our great specialty, we build **only one grade** of work, and that of **the best** in **quality and style.** We do not make the lowest priced vehicles, but claim that ours are the **cheapest in the world** when **quality** is considered. We use the **finest material** obtainable, employ only **expert** and **competent mechanics.** To insure the best and most uniform results, we now **manufacture our own wheels** from **finest timber** (sawed by our own mills) that can be obtained from the hills of Southern Ohio—famous as the **second growth hickory** district.

The reputation of the **Columbus Buggy Company** is unexcelled. The work is known and sold throughout the **entire** United States and Territories. Well introduced in England, Germany, Australia and South America.

Send for Catalogue and prices, and the name of the nearest dealer will be sent. 41A6t

GREEN'S FRUIT GUIDE

64 pages, with colored plate, illustrated, price 5 cts. "How to Propagate and Grow Fruit," 64 pages, 2 colored plates, 50 illustrations, price 50 cents.

GREEN'S FRUIT GROWER,
price 50 cents per year. Sample copy free. Address,
GREEN'S NURSERY CO.,
Rochester, N. Y.

$200,000 *in presents given away.* Send us 5 cents postage, and by mail you will get *free* a package of goods of large value, that will start you in work that will at once bring you in money faster than anything else in America. All about the $200,000 in presents with each box. Agents wanted everywhere, of either sex, of all ages, for all the time, or spare time only, to work for us at their own homes. Fortunes for all workers absolutely assured. Don't delay. H. HALLETT & CO.
51Aly Portland, Maine.

Muth's Honey Extractor,

Square Glass Honey Jars, Tin Buckets,
Langstroth Bee-Hives, Honey-Sections, etc.

Apply to **CHAS. F. MUTH,**
Freeman & Central Ave., - CINCINNATI, O.

☞ Send 10c. for Practical Hints to Bee-Keepers.

WEEKLY EDITION OF THE
AMERICAN
ESTABLISHED IN 1861
OLDEST BEE PAPER IN AMERICA
BEE JOURNAL

THOMAS G. NEWMAN,
EDITOR.

Vol. XXI. Nov. 11, 1885. No. 45.

APICULTURAL NEWS ITEMS.

EDITORIAL AND SELECTED.

The Coming Winter will be a "remarkable one, remembered in history for its severity;"—so says Professor C. C. Blake, a scientist, of Richland, Kansas, in his latest paper, *The Future.* Some "weather prophets," however, do not agree with this prediction. Prof. Blake is said to be an extraordinary mathematician, astronomer, and physicist, and has been very successful in his predictions, so far. Next week we will give his predictions in full.

The Golden Jubilee of the great bee-master, Dr. Dzierzon, was held at Heidelberg, Germany, on Sept. 15, 1885. It was attended by the prominent bee-masters of Europe, and was a very enthusiastic gathering. Dr. Dzierzon was presented with many "diplomas of honor" by the various apicultural societies of Continental Europe, prominent among which was the one from the Italian Society, presented with an address by Prof. G. B. Grassi, who was sent there, from Milano, for that purpose. A banquet and grand concert concluded the Jubilee.

The Joint Western Classification Railroad Committee at their late meeting in St. Paul, Minn., decided not to change the classification on bees and honey. This was in answer to our communication asking for the same classification as the Southern Classification Committee gave Mr. Boylston, as reported on page 362. The meeting of this committee at Chicago, as mentioned on page 355, was not held, and so we had to make our representations in writing. We shall have to wait until a future meeting is held in Chicago, and then we will try to have a personal interview with the members.

We have received a copy of the patent issued to Mr. J. M. Shuck on his Invertible Hive.

Mr. Eugene Secor, Forest City, Iowa, has sent a sample of his honey to the editor of his local paper, who says it is of excellent quality and attractive appearance. His crop of honey this season amounts to 1,366 pounds from 18 colonies last spring, which have increased to 32 colonies. Surely Mr. Secor has reason to congratulate himself on his success.

Bees vs. Grapes.—Mr. M. Segars, of San Bernardino, Cal., writes us as follows about the lawsuit there, which we mentioned on pages 611 and 675 :

In the case of Randall & Noyes *vs.* Bohn, the plaintiffs sued for $299 damages done by the bees of the defendant to plaintiffs' grapes on the vines and while drying. It was tried by a jury of four. We made a strong effort, but were beaten. We showed by plaintiffs' witnesses that all the damages were done by birds, coyotes, foxes, wasps and ants. They had a number of witnesses who testified that the end of a bee's tongue was *sharp*, and could puncture the skin of a sound grape. The following is from our local paper ;

"The case of Randall & Noyes against Gustave Bohn, which was decided in Justice Knox's court on Oct. 27, is probably without a parallel in the history of lawsuits. The plaintiffs are raisin growers in the Highlands, seven miles northeast of this city. Adjoining their vineyard the defendant has a bee-ranch. The action was for damages which the plaintiffs claimed to have suffered in consequence of the frequent visitations of defendant's bees to their grapes. In support of their claim they introduced numerous witnesses who swore that they had in various instances witnessed with their own eyes the perforation and destruction of plaintiffs' grapes when alighted upon by the bees of the defendant. The latter, in turn, introduced evidence to show the impossibility of this condition of things. He proved by a score of witnesses that the bill of the insect is tubular and not pointed, and can, therefore, be used only as an extractor of sweets, not as a borer after them. The evidence of the eye-witnesses of the plaintiffs', however, had the weight with the jury, and they accordingly returned a verdict against the defendant for $75 and costs of suit, which amount to over $60. The plaintiffs were represented by Curtis & Otis, and the Hon. H. M. Willis looked after the interests of the defendant. A stay of proceedings has been asked for, and the case will probably be appealed. It is one of interest to bee-ranchers and raisin growers, and is attracting much attention."

A bond for appeal will be filed to-morrow. We need assistance, as this case will be made a test case. If it goes against us there will be no end of the trouble that will arise, and our bee-industry will receive a death-blow in Southern California. What encouragement can you offer us on the part of the Bee-Keepers' Union ?

Every bee-keeper in California is interested in this decision, and should at once show his interest by becoming a member of the National Bee-Keepers' Union. We have advised Mr. Bohn to appeal from the decision of the Justice's Court, and assured him that the Union will stand by him, and aid in the appeal by sending money, obtaining legal advice, depositions from scientific experts as to the incapability of bees to puncture grapes, etc.

The bee-men of California are more interested in this case than any other bee-keepers can be, and yet there are hundreds in that State who have done nothing towards sustaining the pursuit of Apiculture against its enemies ! They seem to be folding their arms and looking on. *Awake*, now, and come to the rescue of your representative. It may be your turn next.

Stretch ye forth the generous arm !
Help him ere it be too late !
Each right arm, a bee-man's prop !
Made to bear each other up !

The Rural Canadian has been chosen as the official organ of the Ontario Bee-Keepers' Society. Its apiarian department is said to be conducted by "an enthusiastic bee-keeper of 21 years standing"—which we are informed is the Rev. W. F. Clarke, with whose writings our readers are familiar.

Seasonable Hints, as follows, are given by Mr. C. H. Dibbern, of Milan, Ills., in the *Western Plowman* for November :

If the bees are to be wintered out-doors, all packing with chaff, leaves, etc., should be done now, during pleasant days. If they are to be wintered in the cellar, they had better be left till the first of next month, or till winter has fairly set in. They should, however, be set away before severe cold weather, as the combs will then be covered with frost, and they would then commence the winter at a disadvantage. It is always safe to calculate on a severe winter in this latitude. How many thousands of dollars have been lost by bee-keepers who expected a mild winter! Prepare for a cold winter, and no harm will be done, should it prove otherwise. How different, when we find our bees out in the January blizzards, with the weather below zero for weeks. It is certainly not pleasant, while we are in comfortable houses, sitting by our hard-coal base-burners, to think of our faithful servants, the bees, struggling in the snow drifts, with the cold and moisture for their very existence. My eighteen years' experience has taught me that a little care and attention at the right time will keep bees as comfortable, and winter them as safely as other kinds of stock.

All hives not in use should be placed in a dry place, and all sections, cases, etc., piled up for future use. If any extracting is still to be done, the combs must be warmed for a day or two, as honey is too cold and thick to run freely. The combs also would be liable to break, as they get very brittle in cold weather.

All comb honey should be marketed now, if possible. It is much easier to take care of the money, even silver dollars, than comb honey. Severe freezing will crack the combs, and cause them to leak, and spoil their beautiful appearance. Then, too, it is much easier to sell honey now, than in the late winter or spring. Stick to the home market, even if it is a cent or two below city quotations, but if you cannot dispose of all, ship to what appears the best point.

Bees as Fertilizers of Flowers.—A correspondent in an exchange makes the following remarks on the sheep-bees lawsuit :

If bees can trespass there is an end to bee-keeping, as every bee-man will be at the mercy of any surly neighbor. Apart from their merits as honey-gatherers, bees are of incalculable benefit to market gardeners, florists, etc., in fertilizing flowers. If we had bees that could reach down to the honey-cells of red clover, they would be of inestimable value to the farmer, as red clover depends for fertilization on insects, mostly bumble-bees. We are satisfied that the reason why the first crop of clover has so little seed, is because there are not enough of the bumble-bees to fertilize it so early in the season. We noticed in our meadows some heads were full of seed and others apparently equally as ripe without a grain. The bumble-bee had evidently been on the one and not on the rest. Some wise men may laugh at this, but it has been carefully *demonstrated* by Darwin, years ago, that when the bees are excluded the clover seed does not form.

Mr. C. G. Beitel's apiary was visited recently by the reporter of the Easton, Pa., *Democrat*, who has written up a lengthy article on what he there saw, which is quite complimentary to the owner. He also says:

Mr. Beitel, as all know, is practicing law of this county, but all his spare time is spent at his beautiful home on "The Hill," where he devotes his leisure moments between a hot-house filled with rare tropical plants, and his apiary, containing at present about 25 colonies of bees of various strains.

Are you Entitled to a pension? You may be and may not know it. If you examine the Guide and Hand-Book you will soon find out. Thousands of things worth knowing will be found in it. The BEE JOURNAL for 1886 and the Guide Book will both be sent for $1.30.

QUERIES

WITH

REPLIES by Prominent Apiarists.

Basswood Bloom.

Query, No. 152.—If after basswood had bloomed so profusely and failed entirely in honey secretion, from hot, dry weather, is it a common occurrence for it to bloom as heavy and yield honey the next year? This is important to many. —Molesworth, Ont.

The crop of one year proves nothing for the next season. The same may be said of the bloom.—DADANT & SON.

It seldom blooms heavily two years in succession, but the flow of honey is influenced by atmospheric conditions rather than by the amount of honey furnished the preceding year. —W. Z. HUTCHINSON.

From close observation I have found that when honey-bearing trees have failed to yield honey the year before, from any cause, they usually make up for the lost time.—G. W. DEMAREE.

If, as is likely the case, a failure to mature seed occurred as well, I should guess that the chances were improved for next year.—C. C. MILLER.

The failure to secrete honey would make no difference regarding the bloom the next year, for the embryo blossoms are found for the next year before the present season's blossoms opened. A full bloom of basswood comes only every other year in this locality.—G. M. DOOLITTLE.

The fact that it bloomed so full this year makes it less likely to do so next. Yet with a favorable season we may hope for a good supply of bloom.—A. J. COOK.

Basswood with us rarely fails in a sufficient bloom, but in some seasons it seems to yield more honey than in others. When white clover is yielding, the bees do not swarm upon the linden as in seasons like the past when the clover failed.—G. L. TINKER.

From the fact that I had an immense basswood yield for five years in succession, and a very light flow regularly for three years, I am not of the opinion that the blooming and secreting of one season naturally effects that of another. Not here, at least.—JAMES HEDDON.

Comb and Extracted Honey.

Query, No. 153.—How much should comb honey sell for, to make its production of equal value to the production of extracted honey at 8 cents per pound? supposing the apiarist to do "his part," and the only surplus to be white clover or linden honey, cash being paid for the honey on board the cars.—*Sub Judice*, Wis.

Comb honey should sell for 12 cents per pound.—G. M. DOOLITTLE.

I should say certainly for 15 or 16 cents per pound.—A. J. COOK.

I suppose it will vary with individuals—at a rough guess I should say perhaps 16 cents.—C. C. MILLER.

It will depend much upon locality. In my locality I would say 15 cents for comb honey is no better than 8 cents for extracted, sold in bulk.—G. W. DEMAREE.

Comb honey should sell for about twice as much as extracted honey.—W. Z. HUTCHINSON.

We had rather produce extracted honey at 8 cents per pound than comb honey at 20 cents, all other things being equal. We would say this most especially in poor honey seasons.—DADANT & SON.

My experience is, that comb honey should bring about one-fourth more than extracted.—J. E. POND, JR.

If your system of working for comb honey is no better than the average, I would say 16 cents. If it is up to the best known methods I should put it at 12 cents per pound.—JAMES HEDDON.

Amount of Wax in Comb.

Query, No. 154.—How many square feet of worker-comb will it require to make one pound of wax, the comb being taken from the brood-chamber?—B.

That depends upon several things, but usually it takes about 5 square feet.—G. M. DOOLITTLE.

Probably 6 square feet, or perhaps a little more.—DADANT & SON.

It depends upon the age of the comb. Old comb does not furnish so much wax as new. Ordinarily about 5 square feet of comb will furnish a pound of wax.—W. Z. HUTCHINSON.

There is more difference in the thickness of natural comb, as found in the brood-nest, than one would naturally expect to see, and for this reason only an approximation can be made. Five square feet ought to make a pound of clean wax.—G. W. DEMAREE.

Brood-combs, according to age, vary greatly in the amount of wax that can be extracted. It takes from 5 to 8 pounds of old, black brood-comb to make a pound of wax, while new comb will make about 75 per cent.—G. L. TINKER.

Much depends upon the age of the comb. If it is not old, but nearly new, I should say about 4 square feet. I think that the combs built by Italian bees would yield more wax per square foot than that built by German bees.—JAMES HEDDON.

Two Queens in One Hive.

Query, No. 155.—Is it of common occurrence that two queens winter in the same hive?—W.

No.—C. C. MILLER.

No, though they sometimes do.—G. M. DOOLITTLE.

No.—JAMES HEDDON.

It is a very *un*common occurrence. —A. J. COOK.

No.—W. Z. HUTCHINSON.

No, but it sometimes happens.—DADANT & SON.

I have never known an instance. It is presumed of course that the querist has reference to the queens being accessible to each other. By the use of division-boards a number of queens may be wintered in the same hive.—G. L. TINKER.

No. It is quite common for two queens to work in the same hive for a time, but I have never known of their being so wintered.—J. E. POND, JR.

No; it is a very rare occurrence if it really ever occurred. Of course you mean to ask if it is common for a colony of bees to protect two queens during the winter months. I never knew such a case in all my experience. They very often refuse to protect the mother of the colony, if they become discouraged by bad weather in the spring. — G. W. DEMAREE.

Hives for Extracting Purposes.

Query, No. 156.—Is a one-story hive as good for extracting purposes as a two-story hive, provided it is long enough to give sufficient room?—Kent Co., Mich.

No.—G. L. TINKER.

Yes; only it is not as convenient to manipulate. The largest yield of extracted honey I ever obtained was from a one-story hive.—G. M. DOOLITTLE.

No.—W. Z. HUTCHINSON.

I think not. I have tried both, and I am sure that the "tiering-up" plan gives the best results. — G. W. DEMAREE.

No! It places the honey too far from the brood, and spreads the colony too much. We prefer a $1\frac{1}{2}$-story hive with additional $\frac{1}{2}$ stories whenever needed.—DADANT & SON.

Much will depend upon the locality. With me the two-story hive is preferable, and the labor of manipulation is much less with it also.—J. E. POND, JR.

I have twice given this query careful and comprehensive trial; first with 32 colonies, and second with 50 colonies in one-story hives. The result is, that I much prefer the tiering-up system, and I wish to have but 8 Langstroth combs in each tier. —JAMES HEDDON.

I have not been able to see any difference, though I have used them side by side for years. Others think that they do better by using two-story hives. I much prefer the latter, as they are so much more easily managed.—A. J. COOK.

☞ All who intend to be systematic in their work in the apiary, should get a copy of the Apiary Register and commence to use it. The prices are as follows:

For 50 colonies (120 pages)............	$1 00
" 100 colonies (220 pages)........	1 25
" 200 colonies (420 pages)............	1 50

The larger ones can be used for a few colonies, give room for an increase of numbers, and still keep the record all together in one book, and are therefore the most desirable.

CORRESPONDENCE.

Explanatory.—The figures BEFORE the names indicate the number of years that the person has kept bees. Those AFTER, show the number of colonies the writer had in the previous spring and fall, or fall and spring, as the time of the year may require.

This mark ⊙ indicates that the apiarist is located near the centre of the State named: ♁ north of the centre; ♀ south; ⊸ east; ⟜ west; and this ♂ northeast; ↖○ northwest; ○↘ southeast; and ⚲ southwest of the centre of the State mentioned.

For the American Bee Journal.

To Bees in Winter Quarters.

WM. F. CLARKE.

Good-night! a long good-night, my bees!
 Iv'e packed you snug and warm,
So you can stand an arctic freeze
 Or hyperborean storm.

You're two feet high above the ground,
 Beyond the reach of mice;
I hope you'll winter safe and sound,
 And keep your quarters nice.

I'll not come scraping with a wire,
 To keep the entrance free;
You're fixed—how can you but admire?—
 As in a hollow tree.

Nature's inimitable plan
 Well ventilates your hive,
Better than all the schemes of man
 For keeping bees alive.

The season's arduous toil well done,
 Your larder full of sweet,
Enjoy the calm repose you've won,
 And rest your wings and feet.

If you should find the household dull
 Without some babies in it,
Rear them, for you can pollen cull
 In-doors, at any minute.

Take things as easy as you can,
 For you are growing old,
And spend your days, like mortal man,
 As a short tale that's told.

Lifetimes are measured, not by days,
 But by becoming deeds;
And they deserve the highest praise,
 Who leave behind them, seeds

To grow, to blossom, to bear fruit,
 In months and years to come;
As generations follow suit,
 And raise the busy hum

Of honest industry, among
 The gardens, woods, and fields;
The toil that ripples into song,
 And constant sweetness yields!

Guelph, Ont.

For the American Bee Journal.

My Report for the Season.

17—G. M. DOOLITTLE, (40—95).

After the spring opened I found that I had left, after the sales and losses, 25 good to fair colonies of bees, 15 rather weak, and 10 very weak—making 50 colonies in all. As I had further calls for bees, and having the care of my father's estate on my hands, I again reduced my number of colonies by disposing of 5 of the best colonies and 5 rather light ones, which left but 40 with which to commence the season, and 10 of these were so weak that they barely pulled through, having only a little brood in one and two combs on June 1.

When the season fairly opened so the weak ones began to pick up a little, I decided to work 27 of the best colonies for honey, and employ the remaining 13 for queen-rearing. Of the 27 colonies to be worked for honey, 25 of them were devoted to producing comb honey, and the remaining 2, being weak ones, were worked for extracted honey. From these 2 I extracted, during the forepart of the basswood bloom, an average of 39 pounds each, and in the middle of the bloom an average of 55 pounds each, or 188 pounds in all. They were then given 20 combs each, and left until the end of the harvest, when the combs were taken out all filled and sealed. These combs were then set apart for feeding any needy colonies in the fall. There was about 200 pounds of honey in them, but this amount is not counted in the final result.

The willows and hard maples bloomed about May 18, and from these the fairly good colonies obtained a good amount of honey and pollen which helped them to build up wonderfully, while the weaker colonies scarcely held their own until June 10, at which time the weather became warm and all began to be prosperous. From raspberry the bees got scarcely a living, but from Alsike and white clover plenty of honey was obtained for brood-rearing, while some of the strongest commenced work in the sections, drawing out foundation and storing a very little honey where the sections were full of comb left over from the season previous.

Basswood opened on July 14, but the bees secured very little from it until July 18, at which time work began in earnest and continued for 12 days. We had very hot, showery weather during these 12 days—it rained more or less all of the time, but it seemed to make no difference with the honey secretion, for just as soon as the rain ceased falling, the bees would pour out of the hives by the thousands, and in 10 or 15 minutes they would come home laden so heavily that they could scarcely reach the entrances of the hives.

After the 12 days came 2 days of "winding up," which ended the honey season for 1885, for since then the bees have obtained nothing except a little for brood-rearing during a few warm days about Aug. 10. For this reason no brood was reared after Aug. 20, and I shall have the privilege of knowing how all old bees will winter. The colonies appear rather light in bees at this date (Oct. 20), but I have little fears of any great disaster to them on account of old age.

After getting my honey all prepared for market, I found that I had the following as the result of the season: Comb honey, 2,972 pounds, extracted, 188 pounds, or 3,160 pounds in all, which, divided by 27, the number of colonies worked for honey, gives an average of 117 pounds per colony. If we divide the 2,972 pounds of comb honey by 25, the number of colonies producing it, we have 119 pounds per colony as a result, which shows that each colony on an average gave nearly 10 pounds of honey for each day of the 12 that they were storing from basswood, which proves what I have repeatedly said, that if our bees are in good condition to take advantage of a yield of honey, it requires but few days during such a yield to secure a good compensation to the apiarist; while if they are not in good condition, such days will pass by and the bee-keeper's hopes will be blasted. I would give more for 20 colonies of bees kept in good condition for the honey harvest at all times, than I would for 200 colonies left to take care of themselves, as many of the would-be bee-keepers leave them. In no other calling in life will care, skill and energy count for more than it will in bee-keeping.

After having all my bees prepared for winter, I find that I have 95 colonies in good condition, having all natural stores of basswood honey with plenty of pollen as food. Last fall I gave all but a few colonies stores of sugar syrup, with little if any pollen, and I found in May that all the really good colonies I had were those few that were not thus treated, so I take the hint and try all this winter on their own stores.

Borodino,⊙ N. Y.

For the American Bee Journal.

Small Hives—Contraction.

FRANKLIN P. STILES.

A small, light hive designed to be used on the tiering-up principle, and allowing the contraction or expansion of the breeding room at the discretion of the apiarist, with the least outlay of time and labor, is the coming hive, and the hive which is coming to remain. The production of comb honey, by any method or plan, with fixtures which cannot be so manipulated, is now and always will be at a great disadvantage. This is true from the fact that the fundamental principles on which this system is based are as fixed and unchangeable even as the basal foundation of mathematics. The condition of much of the comb honey annually placed on the market, plainly and forcibly reveals the hold which certain very questionable teachings still retain among the advanced ideas of modern bee-culture.

Away back in Vol. I of the BEE JOURNAL, nearly 25 years ago, the Editor tells us that "the colony which is to prove profitable to its owner, must gradually reduce the amount of brood it has, and direct its energies chiefly to the accumulation of stores." But the advice to keep queens laying at their very best—at all times and in every hive—advice which has sounded from all sides till it seemed like an admission of ignorance or mulish propensity to doubt or question the teaching, has tended to cover up the truth and retard the adoption of methods, the value of which were faintly foreshown so long ago. We know to-day that Mr.

Wagner was right, and further, that *every* colony can thus be made "profitable to its owner." How the rearing of 3,000 bees per day in each colony during the white clover and basswood harvests can possibly be of advantage to the comb-honey producer, is a point which its advocates perhaps can best answer.

This locality is considered very poor for honey production, and where large hives are used from 10 to 25 pounds per colony of streaked, half-sealed mongrel looking honey is the amount usually obtained. For three seasons past I have practiced contracting the brood-chamber to 4 and 5 Langstroth frames, hiving all swarms on the same number, either empty, or filled with comb foundation or combs, as the time of issue indicated to be best, and following thereafter the Heddon plan as first learned from his article in the BEE JOURNAL for 1879. The difference to me between a 7-frame hive—the largest I now use—and one holding from 10 to 14 frames, has been an average of 80 pounds of comb honey per colony, each year, worth at least 3 cents more per pound, and the bees in much better condition for wintering at the close of the late harvest.

Haverhill.♂ Mass.

Home Farm.

Piscataquis, Maine, Convention.

The Piscataquis Bee-Keepers' Association held a meeting at Sangerville, Me., on Saturday, Oct. 3, 1885. The meeting was called to order by the President, Mr. N. H. Smith. After roll-call the President delivered his address, and the remainder of the forenoon was spent in listening to reports of those present.

Mr. L. French had 33 colonies in the spring, and now has 68. He has taken from them 1,500 pounds of comb honey in sections, and 550 pounds of extracted honey. He has fed for winter 400 or 500 pounds of sugar, as he thinks that sugar is better then honey for winter stores for bees.

Mr. C. A. Howard had 14 colonies in the spring, and now has 26. He obtained 500 pounds of comb honey.

Mr. French thought that the past season had been an uncommonly good one for honey. In localities where there was not much basswood it was not considered a good year, as the clover season was very short on account of rainy weather.

Among the questions discussed at the afternoon session, were the following:

"Are the Italians better honey-producers than the black bees?"

Mr. French thought that they were not, and said that he should contend for the blacks. Mr. Brockway and Mr. Jackson thought that the Italians were superior.

"Which is the safest way of wintering, in chaff hives, on the summer stands, or in the cellar?" On this question the members were about equally divided.

The election of officers resulted as follows: President, N. H. Smith, of Guilford; Vice-Presidents, J. H. Jackson, of Sangerville, Samuel Webber, of Guilford, Wm. Crockett, of Dover, Ira Faunce, of Abbott, and J. B. Blethen, of Monson; Treasurer, C. A. Howard, of Sangerville; and Secretary, L. H. Whittier, of Guilford.

The following business committee was appointed: Lucian French, Mrs. Geo. Bennett, and M. H. Jackson. The committee on essays and addresses is composed of Mrs. Wm. Crockett, Mrs. L. H. Whittier, and Miss Maud Cross.

The time and place of holding the next meeting is to be decided by the business committee.

A vote of thanks was extended to the citizens of Sangerville for their kindness in entertaining those present, and also for the use of the Hall.

Philadelphia Press.

Poisonous Honey.

PROF. A. J. COOK.

A so-called case of death of three persons by eating honey has gained considerable notoriety of late. It occurred in Branchville, S. C., last May. It is said that several other persons who ate of the honey were affected by considerable lassitude and slight nausea which it is supposed brought relief. A very similar case transpired three or four years ago in the State of New York. The case in South Carolina was referred to me at the time of its occurrence, as was also the case in New York, and in both cases I suggested that some foreign substance, poisonous in its nature, may have been collected by the bees, or possibly the poisoning may have been due to an idiosyncrasy of the persons rather than from any specific poison in the honey.

It was suggested by some one at the time of the poisoning in South Carolina, that the poisonous honey came from yellow jessamine (*gelseminum sempervirens*). It is known that the sap of this plant has peculiar toxic qualities, and so it was suggested that the honey from the flower has the same. This view is not sustained by vegetable physiology or by experience. All secretion from animals and plants is through glandular cells. These do not eliminate sap or blood elements, but secrete nectar from elements in the sap or blood. The nectar is a new substance formed by the gland. Thus there is no reason to think that nectar from a flower will contain poison because a decoction from the plant is poisonous.

Again, bees gather from yellow jessamine every year; yet, we have never heard of poisonous honey from it before, and probably will never hear of it again. It is often stated that the mountain laurel along the Allegheny mountains secretes poisonous nectar. This is a common plant, and is freely visited by bees each year. Yet we rarely ever hear of any evil resulting from eating the honey. Thus the reports which have been made once or twice are not worthy of credence.

M. D., on page 599, writes as though the theory of the poisonous honey, indicated above, was a demonstrated fact, and suggests some ethical rules for bee-keepers. In view of the long years of selling honey, and the one or two cases of so-called poisoning, I think this advice superfluous. The advice to avoid all poisonous plants may be answered by the query—Who has demonstrated that there are any poisonous honey-plants? It is almost certain that there are none.

Agricultural College,♀ Mich.

For the American Bee Journal.

The Western Convention.

The fourth annual meeting of the Western Bee-Keepers' Association was held in the Court House at Independence, Mo., at 10 a.m., on Oct. 15, 1885, the President, A. A. Baldwin, of Independence, occupying the chair.

The morning session was devoted to the order of business. The Secretary's report was read and adopted. The committee on transportation, appointed by the North American Bee-Keepers' Society, reported that the A. T. & S. F., U. P., Mo. P., and the H. & St. Joe railroads charged first-class rates for honey in glass, and for extracted honey in barrels, third-class rates, the same as molasses. The committee suggested that in as much as the transportation companies held monthly meetings that a committee be appointed, that had more time than the present committee, to carry the business further by being present at one of the meetings, and if possible obtain the best schedule for bee-keepers. But the appointment of such a committee was postponed for the present.

The Treasurer's report was then read and adopted. The election of officers for the ensuing year was held at this time, and resulted as follows: President, E. M. Hayhurst, of Kansas City; Vice-President, R. B. Leahy, of Higginsville; Secretary, P. Baldwin, of Independence; and Treasurer, James H. Jones, of Buckner, Mo.

The remainder of the morning session passed pleasantly in the discussion of several topics relative to bee-culture, and the President appointed a committee on subjects for the afternoon discussion. The convention then adjourned until 1:30 p.m.

AFTERNOON SESSION.

The convention was called to order by the President at the appointed time. The committee on the preparation of questions announced the following which were then discussed:

"Will it pay to feed back extracted honey in order to produce comb honey? If so, in what way can it be done the best?"

Mr. Conser: I think that it takes about 3 pounds of extracted honey to produce one of comb honey. I do not think that it would pay. I feed my bees by tipping the hive back and pouring the honey in at the entrance.

L. W. Baldwin: I feed my bees only to get unfinished sections completed, which can be done just as the honey harvest is closing, and thus not allow the bees to stop comb building. There is money in it if carried out in this manner. I feed by using feeders inside the hive.

A. A. Baldwin: I have fed extracted honey for this purpose, and I think it will pay, but I have not tested it by actual weighing and experiments.

"Which race of bees is the best for producing comb honey?"

Mr. R. B. Leahy plead for the black bees, as far as getting white, capped and finished-up comb honey for market. He thought they entered the sections more readily before swarming, and were less disposed to swarm. James H. Jones said that he would not keep bees if he had to keep the blacks. The discussion was quite animated in bringing out the different traits of the Italians and the black bees, but the convention was almost unanimously in favor of the Italians. Other races of bees were mentioned, but no one had handled them sufficiently to be very enthusiastic over them.

"What way is the best to winter bees?"

L. W. Baldwin: I winter my bees in the cellar, and I have found by the use of the scales that on an average bees consume from 10 to 12 pounds more honey per colony when wintered on the summer stands than when wintered in the cellar. This is quite an item in wintering a large apiary.

A. A. Baldwin: I think that outdoor wintering brings the bees through with more vigor, and they usually swarm a week or ten days sooner than those wintered in the cellar. I feel confident that bees packed with chaff will consume at least 5 pounds less honey than if not so packed.

The President said that chaff packing saved stores. The general opinion was that bees wintered on the summer stands should be crowded upon as few combs as they would occupy, have 20 or 25 pounds of stores, and be well packed.

"Does it pay to use reversible frames and section-boxes?"

No one present had used them much, excepting Mr. Conser who had used them, and was well satisfied with them.

"How far apart should large apiaries be located in a good honey-yielding country?"

This question brought out statements of long flights of bees in search of honey, but the opinion most generally accepted was, that if the apiaries were placed not less than 4 miles apart, there would be no conflictions.

The convention then adjourned until 9 a.m. the next day.

SECOND DAY.

The convention met at 9:30 a.m. The President being late, Vice-President R. B. Leahy occupied the chair. Mr. L. W. Baldwin was selected to prepare the table of statistics, which is as follows:

NAMES.	Colonies Fall, 1884.	Colonies Spring, 1885	Comb Honey.	Extracted Honey.	Beeswax.
L. W. Baldwin†	190	160	6500	500	....
Jas. H. Jones†	150	117	5190	535	....
W. B. Thorne	43	18	....	400	....
A. A. Baldwin	133	93	5000	....	....
A. A. Mitchell	54	30	1000	....	....
Jno. Conser	54	33	1608	600	10
R. B. Leahy	71	60	200	3000	16
H. D. Libby	12	3	....	....	....
J. S. Adkins	60	52	1000	500	25
Jas. A. Nelson	62	60	700	800	15
U. Adams	12	10	600	....	....
S. W. Salisbury	105	66	500	3200	30
N. W. Putnam†	10	10	200	....	....
C. M. Crandall	90	61	2300	100	50
Geo. Hiest	4	1	....	....	....
C. K. Ormsby	30	20	600	100	....
P. Baldwin	158	92	3500	50	50
E.M.Hayhurst*	130	125	159	....	....
F. J. Farr	160	127	4500	500	....
Total......	1528	1138	33557	10285	196

* Reared queens instead of producing honey.

† Wintered bees in cellars. All others wintered on the summer stands.

There being no business to transact, the discussion of questions was resumed as follows:

"Does it pay to use wired frames?"

Mr. Conser: I have used them. In shipping bees I think they are of great benefit, but in handling combs at the apiary they are not of so much use.

L. W. Baldwin: I have had considerable experience in handling and moving bees for several years, and in all this time I have not had a half-dozen combs injured, even if not transported on a spring-wagon. As far as I have observed, I cannot see any use for them.

R. B. Leahy: If I were going to work my apiary for comb honey, using frames with short top-bars, I should not have them wired. In handling I would rather have them wired for manipulating lower stories.

"How can we remedy the turning out of the starters in sections as the bees work them?"

This question called out the experience of several leading bee-keepers this season, and it was generally thought that the cause was the slow flow of honey, cool weather, and colonies being light in bees. Some advocated using smaller starters, others turning the sections around, while others thought that crowding the bees would remedy it.

"In what direction is it best to have the hives face in winter?"

Mr. Thorne: I would have them face the same way in summer and in winter.

S. W. Salisbury: My hives have loose bottom-boards, and I raise the hives in summer to prevent the bees from lying out, and let them down on the bottom-board in winter. I think that the hives should face toward the south.

"How should young colonies be handled to secure the largest amount of honey?"

L. W. Baldwin: I make a nucleus from the swarm and put the rest in the parent colony.

P. Baldwin: A good way is to put the swarm on 5 or 6 frames and compel them to go into the sections at once.

"Is there any successful way of introducing queens?"

Mr. E. M. Hayhurst having stated that he could introduce 500 queens without the loss of one, was asked to give his method, which he did as follows: After making the colony queenless, I have a young queen caged in a Peet cage, and I place the cage directly over the cluster of bees and leave it there till I see that the bees are perfectly reconciled to the queen; this will require two, three, and sometimes several days. I then remove the queen-cells and place the cage on an outside comb over some honey, remove the slide and rim out a plug through the comb, letting the plug remain in place and leave it undisturbed for a week. If the bees are disturbed before the queen begins to lay, she will become frightened, will run about and pipe, and the bees will chase and kill her. The important point is to have the bees perfectly reconciled, every queen-cell out, and no robbing.

L. W. Baldwin: I have found that it is very difficult to introduce queens into colonies that have long been queenless. It is almost an impossibility with me.

The convention then adjourned till the afternoon.

AFTERNOON SESSION.

The convention was called to order at 1:30 p.m., President Hayhurst presiding. The following question was then asked:

"What is the most simple, cheap and expeditious way for the practical bee-keeper to change his stock by re-queening?"

L. W. Baldwin: I put in queen-cells after the colony has swarmed, and again immediately after the honey-harvest, by taking the queen away and the next day giving the colony a queen-cell.

A. A. Baldwin: I had just as soon as not have colonies queenless for 20 days after the honey harvest, and would take this time to give them a queen.

S. W. Salisbury: I re-queen colonies with swarming queen-cells.

The question, "Is it advisable to clip the queen's wing?" brought out a lively discussion.

James H. Jones: I prefer to have my queens' wings clipped.

S. W. Salisbury: I have tried clipping the queens' wings, and I think that it induces the bees to supersede their queen immediately. I also have great trouble in finding a queen whose wing is clipped, when swarming.

L. W. Baldwin: The ease and facility in handling swarms is much in favor of queens whose wings are clipped, and I like the practice.

A. A. Baldwin: I do not think that clipping the queen's wing causes the bees to supersede her. The past year, with an apiary of 135 colonies, only two queens were superseded, and they through natural causes.

The majority of those present favored the practice.

James D. Meador was appointed to further prosecute the business with the railroad companies, of endeavoring to get a better scheduling of apiarian products.

The convention adjourned to meet in Kansas City, Mo., next spring, at the call of the executive committee.

P. Baldwin, *Sec.*

For the American Bee Journal.

Bees Biting Flowers.

C. M. WEED.

It has for many years been well known that flowers and their insect visitors sustain a relation to each other by which both are benefited; the former manufacturing in their wonderful nectar-glands, a sweet substance which is given the latter that they may in going from blossom to blossom carry the fertilizing pollen which, acting on the sensitive pistils, fertilizes the young seeds so that they mature in perfect condition.

Pre-eminent among the insects that flowers thus lay themselves out to attract, are the bees, and as one studies the flowers that bees more particularly visit, he can easily imagine some of them to say, in spirit if not in words, "Here, O bee! I have stored deep in my bosom some sweet nectar fit for the gods, which you would much relish, and you may have it if you will carry some of these fine pollen-grains to my neighbor yonder who will give you some nectar to take home, and some pollen to carry to the next one of our kind that you visit." Whether or not the proposition is understood, we all know that it is usually agreed to, though it is easy to see that many plants, as if afraid to trust the bees to fulfil their part of the agreement, have so arranged the approach to their nectar-glands as to compel them to carry off the pollen whether they will or not, and if any of the young readers of the Bee Journal will examine the blossoms of some of our honey-plants, they will find many wonderful adaptations of the parts of the flower, arranged for this very purpose.

But some kinds of bees, especially the big bumble-bees, with which we are all so familiar, instead of entering at the door, which the flower has so kindly provided, as any decent, well-bred visitors would, have learned that they can often get at the nectar-glands in a quicker way, by simply using their stout jaws to bite through the thin flower leaves, as we may properly call the calyx and corolla, and boldly sipping the forbidden sweet. And it is a fact noticed by naturalists, that when a bumble-bee once learns this method of plundering the poor flowers that have taken such pains to dress up in gay colors expressly to attract his attention, he seems to take the same enjoyment out of it that a lot of school-boys do in pilfering a neighbor's orchard, rather than taking fruit from their father's farms in the orthodox fashion; for after Sir Bombus once learns the delights of stolen sweets, he seldom goes back to the old way of entering the corolla-tubes and soiling his armor with the great masses of pollen-grains.

A very good illustration of this kind of plundering may be seen any day in early summer in most of our Middle and Western States, by any one who will examine the flower-spikes of the common yellow lousewort (*Pedicularis Canadense*). Usually over one-half of the blossoms have had a great hole taken out of the calyx by bumble-bees, and if one will watch he will find that many honey-bees have learned that the honey is more easily obtained through the holes thus made by their larger cousins than through the long corolla-tubes, and act accordingly.

But I believe it is very seldom that the honey-bees themselves thus bite flowers in preference to entering them as nature intended, though a few well authenticated instances are on record. One of the most trustworthy of these was related by Thomas Meehan, the eminent Philadelphia botanist and florist, at a meeting of the Philadelphia Academy of Sciences. He stated: "Late one autumn, long after most other flowers were gone, and with no humble-bees about, scarlet sages (*Salvia splendens*), for nearly a week together, received the sole attention of the honey-bees, which worked among the flowers in great numbers, in all cases boring the corollas near the base from the outside."

This is an interesting subject, and many readers of the Bee Journal could doubtless shed some light upon it by reporting observations similar to the above, in which bees have been known to thus bore the corollas.

Champaign, Ills.

For the American Bee Journal.

Winter Temperature & Ventilation.

WM. F. CLARKE.

I think that although Mr. Heddon and myself have come by different routes of thought and investigation, we have reached pretty much the same point. I accept his "quiescence" as the equivalent of my "hibernation." His letter on page 684 hits the nail squarely on the head, and suits me exactly. On his part he has admitted (see his last winter's report) that if the temperature is right, bees will not be apt to eat pollen to hurt them, even if they can get at it. So I say, get the temperature right, and never mind the pollen. The bees will fix the temperature, if they are given due protection and ventilation. I am a little afraid from the tone of some of Mr. H's late articles, that he is going to stint the ventilation. I do not think that bees want a great deal of ventilation, though I believe they need more in winter than in summer, but what they have must be *uniform* and *infallibly safe from interruption or stoppage.* A few hours' derangement or obstruction of the air-supply will create uneasiness, over-eating, diarrhea. An excess of cold will have practically the same effect, causing exercise to get up warmth, overfeeding to supply waste of tissue, and diarrhea. Of course, the cold may be so intense as to cause freezing to death without the preliminary process of exercise, over-eating, and diarrhea, as was the case with those colonies of Mr. Heddon's that succumbed to cold "pure and simple" last winter.

To guard against these evils, is the object of my "hibernating hive-stand," which has already been described in the Bee Journal. I want to temper the air-supply, and yet maintain it in uniformity, while not exposing the hive to incursions of mice, etc. Two seasons' trial has satisfied me that it is better to raise hives 18 inches or 2 feet from the ground. It is far more convenient for handling bees during the working season, baffles the toads, and so far as I can see, no bees are lost coming home heavily-laden and falling in the grass. I have watched mine pretty closely, and I am sure that the loss from bees missing the alighting-board when "weary and heavy-laden," is *nil.*

The only objection that I can think of to raising the hives, is exposure to winds, and liability to be blown over, covers blown off, etc. But every apiary should be protected with a high board-fence; and as for the covers, if any one is like Mr. A. I. Root, and does not like the big stones (I do not like them), it is the simplest thing in the world to use a couple of hooks. To fasten and unfasten them is but the work of a moment, and less trouble than handling a big stone. Let me here say, that, after a couple of season's trial of the flat, single-board covers, I have discarded all others. Made of good lumber, without cracks or knots, and well-cleated, so as not to warp, they "fill the bill" completely. Why do I lay so much stress on a box-stand? Because I cannot get nature's plan of bottom and vertical ventilation without considerable space under the hive.

The coming winter's experimenting, will, I believe, settle the problem. I want to find out the *quantum suff.* of protection and air-supply that will make my bees "*quiesce*" (Heddon) or "*hibernate*" (Clarke). We want to find out the temperature at which bees will be so quiet and contented that they will not eat pollen if it is in the hive, nor crave it if there is none there.

Mr. Heddon objected some time ago that my box-stand was not "practical." I think it is, and I intend to bring a model to the Detroit meeting, which, I hope, will convince him also that it is. What I claim for it is, that it is less expensive and less troublesome than any system of in-door wintering that involves carrying bees into and out of repositories of any kind. Moreover, that it secures the "quiescent" or "hibernating" condition more surely than any other plan. Mr. Allen Pringle has recently defined what we want to bring about, very happily, as follows: "The quiescent condition bees assume portions of the time *in healthy winter quarters*. (The italics are mine.) Given the "healthy winter quarters," with plenty of stores in them, and the work is done. Then we may cry "Eureka!" Nothing will remain for us and our bees to do, but "rest and be thankful."

Guelph, Ont.

For the American Bee Journal.

The Sheep-Bees Lawsuit.

C. A. HATCH.

The "complaint" in the above suit reads as follows:

STATE OF WISCONSIN—RICHLAND COUNTY.

A. J. POWERS, *Plaintiff*,
vs.
S. I. FREEBORN, *Defendant*. } *Circuit Court*.

The complaint of the above-named plaintiff, A. J. Powers, by Brooks & Dutcher, his attorneys, respectfully shows to this Court and for cause of action alleges—

That he is the owner in fee and in the sole possession and occupancy of and ever has been since the first day of May, 1881, of the south ½ of the southwest ¼, and all that portion of the northwest ¼ of the southwest of section 9, that lies east of Willow Creek, and the southeast ¼ of the southeast ¼ of section 3, all of which land is in Township No. 10, north of Range 2 east, in the County of Richland, State of Wisconsin. And the plaintiff so being the owner and in the possession of said land has, during all that time owned and kept a flock of blooded sheep thereon of an average of 125 in number, and kept said sheep for the purpose of sale at any and all times, and said sheep being of the value of $2,500; and during all that time has pastured said flock of sheep upon said lands above described.

That the grass which was grown upon the said lands upon which said sheep were pastured during the summer and autumn months of each year was almost wholly white clover, and during the greater portion of said times was covered with blossoms; and that the plaintiff was compelled to pasture said sheep upon said lands, it being the only suitable pasture in which he could keep them during the summer and autumn months of each of said years to-wit: The summers of 1881, 1882, 1883 and 1884.

That during all the time the plaintiff so owned and occupied said land and so pastured his said sheep thereon as above set forth, the said defendant upon lands adjoining and adjacent thereto kept several colonies of bees numbering in all from 200 to 300.

The plaintiff further alleges that by reason of the defendant keeping all of said bees so near said premises of the said plaintiff they entered in such vast numbers upon the said premises of said plaintiff, and his said pasture where said sheep were kept, that said sheep were driven therefrom thereby, and were forced to leave their feed and go into the barn or elsewhere to avoid said bees, and there remain until said bees left the pasture for the day; and the said sheep were thus deprived of their proper food and became poor, unhealthy, and unfit for market.

The plaintiff further alleges that by reason of said sheep being driven from their food as before stated, by said bees, became poor, weak and feeble, and that the plaintiff was put to great trouble and expense in taking care of said sheep in furnishing extra feed and grain to keep them alive, and that the said sheep became so weak and feeble by reason thereof that many of them could not be recruited, and died during the winter to-wit: In the winter of 1882 and 1883, 35 sheep died; in the winter of 1883 and 1884, 7 sheep died.

That said sheep in a good healthy condition were worth at least $12 per head.

The plaintiff further alleges that said defendant wrongfully and unlawfully so kept said bees, and knowingly and unlawfully suffered bees to go upon the premises of the plaintiff, as aforesaid, and to drive said sheep from their food and pasture almost daily during the summer and fall months of said years of 1881, 1882, 1883 and 1884; and that the defendant well knew all the facts and circumstances connected therewith.

The plaintiff further alleges that by reason of the wrongful acts of the defendant above set forth, and by reason of the said bees driving said sheep from their said pasture during all the said time, and the trespass of said bees thereon, to-wit: upon the said lands of said plaintiff and the wrongs and injuries above set forth and occasioned thereby, that he has been injured and damaged to the amount and value of $500.

Wherefore the plaintiff demands the judgment of the court against the defendant for the said sum of $500 damages besides his costs and disbursements in this action.

BROOKS & DUTCHER,
Plaintiff's Attorneys.

Opinion of the Court—Judge Clementson.

The Plaintiff, by attorneys, claimed that bees may trespass as well as other animals; that the bees of defendant came upon the premises of plaintiff and drove the sheep from the pasture; that it became a nuisance that should be abated as other nuisances are, etc.

The Court—Is your claim for literal trespass or for a nuisance?

Plaintiff—It is a trespass that becomes a nuisance because of the vast numbers of bees kept.

The Court—Have you any authority upon this matter?

Plaintiff—We have none.

The Court—If you proceed upon the theory of nuisance, will you please tell where the nuisance exists—will you locate it?

Plaintiff—The bees were kept upon defendant's premises and by him upon a farm joining plaintiff's premises, and they became a nuisance by coming upon the plaintiff's premises in vast numbers. This nuisance should be abated as a bad stench should.

The Court—The stench is essentially bad, and may become a nuisance by being blown by the wind—it depends where it is located. Bees are recognized as useful. If you proceed upon this theory it will establish a new line of liability, and it is advisable at the outset to find its exact course.

Plaintiff—It is the maxim of law that one person shall keep his own property so it shall not injure others. We claim that the defendant kept bees that injured the plaintiff's sheep—drove them from the pasture so they became weak and feeble, many of them dying during the following winter.

The Court—You do not allege that the bees stung the sheep, nor do you allege that they took anything from the clover of value to the sheep—you simply assert that the sheep were driven from the pasture by the bees. We must understand whether you proceed upon the theory of trespass or of nuisance, so the nature of the damages may be determined.

Plaintiff—The theory of the prosecution is that of trespass. The presence of the bees upon the plaintiff's premises was voluntary. The nuisance lay in their vast numbers. By the new methods of bee-culture the multitude kept in one place vastly exceeds those formerly kept. The bees are moved from place to place in quest of pasturage.

The Court—A man may pass over his neighbor's farm a dozen times and he does not bring suit for trespass. Now if a man has a hive of bees and it is trespass for them to go upon others' property, he would be liable to suit for trespass wherever a bee went. *It would fill the courts!* Every bee-keeper would have a "peck of trouble!" It would seem that if the sheep were driven from the pasture in the summer they might have been fed up in the fall to recruit them for the winter. I can see that upon your theory even flies would in certain cases become a nuisance for which a man might be prosecuted. Suppose the owner of a cane or sugar mill should locate it near a neighbor's property, and vast swarms of flies came to feed on the sweets, they might be a nuisance to stock in an adjoining field. If we proceed, it would be difficult to determine the extent of damages.

This case involves new points in law upon which there are no rulings of the Supreme Court. We have no law upon which to instruct a jury. I have made some inquiries to satisfy myself. As we must look to the Supreme Court for rules of law, it is better that this case be sent there at once. If the defense objects to any evidence under this complaint, the objection must be sustained, and the plaintiff may appeal from the ruling thereon.

The defendant objected as suggested, and the objection was sustained by the Court, and the plaintiff excepted.

Richland Centre, ♀ Wis., Oct. 31.

For the American Bee Journal.

Small Hives vs. Large Hives.

S—W. Z. HUTCHINSON, (70—40).

I notice that I have not been sufficiently explicit in my statements. In my first paragraph, on page 631, I intended to carry along, to its end, the meaning, or influence, of its central idea, viz: Success depends upon producing the largest amount of honey with the least expenditure of capital and labor. My meaning was that this idea should be kept in view, and if we did secure the greatest amount of honey with the least expenditure of capital and labor, it was of no importance whether the honey was stored in 10 or in 100 hives. My meaning is, that we should not strive to see how much honey we can secure per hive, *unless* by so doing we are securing the greatest amount of honey with the least labor and capital. To illustrate: One man with a few hives and many manipulations (labor) may secure 1,000 pounds of honey; another man with twice as many hives, and with less labor, may secure only the same amount of honey, and yet make the most profit. I hope I may be excused for dwelling upon this point, for it is the one grand principle underlying success, not only in bee-keeping, but in all industries.

Mr. Dadant's computations, on page 662, in regard to the number of bees per comb in large and small hives, before swarming and after, etc., are interesting, but he has evidently overlooked the fact that, when bees swarm, they are not confined to the 8 or 12 combs (the brood-nest), but there is a surplus department, of equal or greater capacity than the brood-nest, which is crowded with bees. After a swarm has issued, this surplus apartment is almost abandoned. According to Mr. Dadant's figures, an 8-frame hive may contain 50,000 bees, and a 12-frame hive 75,000 bees. He divides these numbers by the number of combs per hive, and says there must be about 6,500 bees per comb. He certainly must have made these calculations to apply before the giving of surplus room. I can think of no other explanation.

With me, and I believe it is a general rule, bees do not usually swarm until they have stored considerable honey in the surplus apartments. When the 8 combs are crowded with bees, and honey is to be gathered, I put on one case of sections. The bees take possession. Bees are hatching in excess of the mortality, and soon not only the brood-nest, but the case of sections, is crowded; now I put on another case of sections, and the bees overflow into this. Soon this case becomes crowded, and another case is added. About the time that the sections in the case first given are finished, and the sections that were last given are one-third finished, the bees swarm. Now, this much I *know:* A swarm of bees that comes from an 8-frame Langstroth hive, and from three crowded cases of sections above it, cannot be hived upon only 5 combs and not crowd more than 166 bees per comb into the sections. I think that even Mr. Dadant will admit this. If the bees swarm earlier in the season, before commencing work in the surplus apartment, the swarms will, of course, be smaller, and there will be all the more need for contraction in order that we may secure all the white honey in the surplus apartment instead of the brood-nest.

It is true that when our bees swarm we hive them upon the combs, and then reduce the old hive to the same capacity, which enlarges our hive-capacity two combs; hence Mr. Dadant says it should be called the "enlarging method." It is contracted, is it not, so far as the egg-producing power is concerned? We now have *two* queens.

It is true that we can house our bees at less expense in large than in small hives, and it is equally true that implements and fixtures that cost the most are often the most profitable. But let us see how much greater our outlay for hives really is. Mr. C. P. Dadant estimates the cost of a Heddon hive at $2.50, and the hive which he uses, at 50 cents more. (His estimates in regard to foundation have no bearing upon the subject under discussion, as the cost for foundation is the same whether used in a large or a small hive.) He uses 8 hives where we use 12, ours costing $2.50 and his $3.00 each, with interest at 10 per cent., and the hives are replaced by new ones every 15 years, and 12 hives cost us each year $1.00 more than his 8 cost him—an expense of 8⅓ cents per hive, each year. Now, to save this trifling expense, we must incur the risk of having from 5 to 20 pounds of the choicest honey stored in the brood-nest. My comb honey, this year, netted me 16 cents per pound. Had I used hives so large that the queen did not occupy the two outside combs, my *surplus* crop would have been reduced at least 14 pounds per hive. Had this 14 pounds been needed for winter stores, it could have been replaced with sugar at a profit of $1.26.

If I understand this subject aright, it is something like this: Mr. Dadant considers it of more importance that the queen shall have an abundance of room in which to lay eggs, than that all of the combs be filled with brood; while I wish every comb to be filled solid with brood, even if the queen does have to occasionally indulge in a "play spell."

Mr. C. P. Dadant places great stress upon the advantages to be gained by allowing each queen to lay to her utmost capacity, intimating that the number of bees will be increased thereby. It will increase the number per hive, but not per *apiary*. Ninety-six combs filled with eggs by 8 queens will produce no more bees than will 96 combs filled by 12 queens, and the chances that they *will* be filled are reduced to a certainty when 12 queens are employed.

I think that the yield of honey depends upon the area of the field (and its character), and the number of *bees* employed; *not* upon the "number of *colonies*," as Mr. Dadant puts it. That is just where we differ. He wishes a large number of bees per *colony*, while I am not so particular about that as I am about a large number per *comb*.

Rogersville, Mich.

For the American Bee Journal.

Wabash Co., Ind., Convention.

The fourth semi-annual meeting of the Wabash County Bee-Keepers' Association was held in the G. A. R. Hall at North Manchester, Ind., on Oct. 10, 1885, at 10 a.m., with President Hess in the chair. The minutes of the previous meeting were read and approved.

An essay was read by Aaron Singer, on "How to keep bees for profit."

GENERAL DISCUSSION.

Mr. Miller uses glass in section-cases, but he will discard it hereafter.

Mr. Cripe uses glass, but would use it no more.

Mr. Maurer: I am using glass, but I have to keep it darkened to get the bees to work in the sections.

Mr. Gerlack said that he had very little success in dividing colonies, and prefers natural swarming.

Mr. Zimmerman said that the production of extracted honey pays better than comb honey.

Mr. Miller prefers comb honey because it is nicer to handle, and is more marketable.

Mr. Singer asked: "Does comb honey at 20 cents a pound pay? or, taking that for a basis, at what price can extracted honey be produced to be as profitable?"

Mr. Cook said that more honey can be produced by extracting, and if a market could be found for it at 15 cents per pound, it would pay as well as comb honey at 20 cents.

Mr. Miller: Extracted honey granulates in cold weather, and that injures the sale of it.

Mr. Singer: I sell comb honey at 20 cents and extracted at 12½ cents per pound. I peddle it and sell more of the extracted.

Mr. Comstock said that there is very little difference in the profit of comb honey at 20 cents per pound and extracted at 12½ cents.

President Hess said in regard to keeping up the price of honey, that some farmers and a few bee-keepers make a great mistake by selling comb honey at a less price than can be afforded, and that bee-keepers should stand unitedly on the price, and work for each others' interest.

In several townships represented, 70 per cent. of all the bees died last winter.

AFTERNOON SESSION.

An essay was read by Henry Cripe, on "Preparing bees for winter," which was discussed as follows:

Mr. Singer asked: "How do bees get air in the winter?"

All the air they get is through the space in front of the hive.

Mr. Comstock packed his bees in chaff and lost none.

Mr. Miller packed snow around his colonies, and none froze, but some died of starvation.

Mr. Cook packed his bees in chaff, with good success, the main point being to keep them dry with plenty of stores.

On contraction some advocated 4, 6, and 8 frames, and division-boards. The Secretary prefers 4 or 5 frames and 20 pounds of honey per hive.

Mr. Singer did not intend to contract his hives any, and packed some of his bees in chaff and some in sawdust.

Mr. Cook advocated upward ventilation.

"What is the best way to avoid moisture in the hives in winter, and is it a cause of mortality?"

It was generally admitted that it causes mortality, and the best way to prevent it is, to so prepare the hives as to absorb all the moisture possible.

"Should bees breed late? If so, how late?"

It was generally conceded that bees hatched in September were the best for wintering successfully, for old bees or too young bees did not winter well.

"What way is the best to Italianize colonies in the spring?"

Mr. Cook takes eggs and brood from his best Italian bees and lets them rear a queen, or buys one.

Mr. Singer intends to rear a colony of drones, and take brood from the best Italian colony, and remove it to a place two miles distant, leaving them there until the queens are mated, and then take them home and introduce them. He said that it did not pay to rear a few queens in a small way, and that it is better where only a few are wanted to buy them of some reliable dealer.

SMALL HIVES VS. LARGE HIVES.

Mr. Miller: I am using 8 and 10 frame hives, and get the best results with the 10 frame ones.

Mr. Cripe prefers the 8-frame hive to anything larger, and if he were to change he would use something smaller. He said that the heat can be kept up better in a small than in a small hive.

Mr. Lower has had good success with any of the hives he is using.

Mr. Singer: My best results are from 10-frame hives, but I am going to change to an 8-frame, as I think they are more easily manipulated.

DEEP VS. SHALLOW FRAMES.

Mr. Comstock: All say that shallow Langstroth frames are preferable on account of the brood being near the top-bar, but I find the same is the case with deeper frames, and I like the deep ones the best.

Mr. Cripe prefers the shallow frames for summer and the deep ones for winter.

Mr. Singer would prefer frames a little deeper than the Langstroth, but not so deep as some for general purposes. A medium frame would suit him best.

"What is the best way to feed bees?"

President: I feed my bees by nailing scantling together and setting the hive over them late in the evening. The food is taken up at night, and so I have no trouble from robber bees.

Thirteen members reported 66 colonies, spring count, 209 colonies, fall count, and 4,931 pounds of honey as the crop of the past season.

A vote of thanks was tendered the various papers for publishing notices of the convention, and also to the G. A. R. Post for the use of their Hall.

The convention then adjourned to meet at Wabash, Ind., on the second Saturday in April, 1886.

J. J. MARTIN, *Sec.*

For the American Bee Journal.

My Management—Extracting.

W. H. STEWART.

In continuation of my management of an apiary (see page 601): If I think that a part or all of the combs in the super are ready for extracting, I pry the top-bars loose, and lift out the one that by its appearance is best calculated to be taken up without scraping the other combs, or crushing the bees. I give it a careful shake over the super, when most of the adhering bees will be dislodged, and then with a large feather I brush off the remaining bees, also letting them fall into the super. This comb and all others that are capped over about one-third or more, I hang in the comb-basket, and fill the super again with empty combs from the basket. I repeat this operation until the basket is full of combs of honey. I now leave the fuel basket at the hive which I next intend to operate upon, and wheel the load of honey into the extracting room. Here I have a deep dish (a coffee-pot is good) full of hot water in which the honey-knife is dipped to clear off the wax and honey that sometimes accumulates on its edge. On a table I have a dish over which I hold the combs while the sealed part is being uncapped. A boy can do this uncapping and then hand the combs to the one doing the extracting. When the honey is out of the combs, I return them to the comb-basket to be taken to the hives and exchanged for full ones.

In the honey-room I have one or more barrels in which to store the honey. If one has not hives and combs enough to practice tiering-up, and let the honey become well cured before it is taken from the bees, it is better to have a number of barrels with only one head in each, and when they are filled, tie a cloth over the top and let the honey cure and thicken by evaporation.

As I take the honey from the extractor, I pour it through a strainer made of cheese-cloth that I tie over the evaporating barrel. When the barrel is full, I remove the strainer and tie over the barrel a piece of muslin heavy enough to exclude all dust. When it has stood two weeks, I remove the cloth and skim off a white scum (pollen dust, I presume) that is found on the surface, and then the honey is ready to barrel up for market.

Sometimes I extract three times during basswood honey-flow. In this locality the basswood flow generally stops abruptly, and as there is but little honey that the bees can get for a few days, nearly all of them remain at home, and are very cross and more difficult to handle, and, as a rule, it is better to discontinue the work of extracting until buckwheat or other plants begin to give the bees a little honey; then they can easily be quieted with smoke while the work of extracting is completed. The finishing up of this work of extracting is a most important item.

We have now from one to three supers on the hive of each old colony, and all full of surplus combs. If these combs are properly handled they will be found in good condition when wanted next season; but if not properly managed, they will be likely to give much trouble, and most likely the majority of them be destroyed by the moths, in the end.

When extracting this last run of basswood, I take away all supers as fast as I get the combs out, and when all are off, I place the cap on the brood-chamber, confining the bees to the brood-combs.

When all the surplus combs have been run through the extractor, I pile them up in the extracting room, until about half an hour before sundown, when I put them out in the open air, so that the bees can take away the honey; then hang them in the supers again about two inches apart, and place the supers 4 or 5 tiers deep, with the bottom-boards under and the covers on them. They may remain out-of-doors or in a store room where there is no fire, and the moths will not destroy them. It may be well to set the combs out more than one evening, but never let them remain out over night. Wind or storm might destroy them if left out, or the bees would be apt to get crazy over them in the morning; and if they thus become aroused in the early part of the day, robbing might ensue. Never place the combs where they would be exposed to the hot sun, or they may be melted down.

Orion, ♀ Wis.

Convention in Italy.

The Central Apicultural Society of Italy held a large and enthusiastic meeting at Milan, commencing Sept. 24, when Dr. Angelo Dubini took the chair in the absence of Pres. Barbo. Besides a number of Italian bee-keepers, Mr. E. Bertrand, editor of the Swiss bee-paper, and Mr. T. W. Cowan, editor of the British *Bee Journal*, were present and took part in the deliberations. There was a large exhibition of bee-keepers supplies, and honey, as well as articles in which honey is used.

Local Convention Directory.

1885. *Time and place of Meeting.*

Nov. 12.—Central Michigan, at Lansing, Mich.
E. N. Wood, Sec., N. Lansing, Mich.

Dec. 8—10.—Michigan State, at Detroit, Mich.
H. D. Cutting, Sec., Clinton, Mich.

Dec. 8—10.—North American, at Detroit, Mich.
W. Z. Hutchinson, Sec., Rogersville, Mich.

Dec. 8-10.—Northwestern, at Detroit, Mich.
W. Z. Hutchinson, Sec., Rogersville, Mich.

Dec. 11.—Northeastern Kan., at Hiawatha, Kan.
L. C. Clark, Sec., Granada, Kan.

1886.
Apr. 27.—Des Moines County, at Burlington, Iowa.
Jno. Nau, Sec., Middletown, Iowa.

☞ In order to have this table complete, Secretaries are requested to forward full particulars of time and place of future meetings.—Ed.

SELECTIONS FROM OUR LETTER BOX

Nearly Ready for Winter.—G. H. Knickerbocker, Pine Plains,○ N. Y., on Oct. 30, 1885, says:

We have been building this summer and fall, and so I have not been able to give my bees the attention that they needed, but I now have all except 4 or 5 colonies prepared for winter. I have in all 60 colonies. I shall winter part of my bees in the cellar and a part of them on the summer stands.

No Fall Honey.—L. Dawson, Champaign,○+ Ills., on Nov. 2, 1885, writes:

I started last spring with 15 colonies, increased them to 40 during the season, and obtained 800 pounds of comb honey from white clover. By July 15 the honey harvest was over, and the bees gathered no fall honey. My colonies are strong in bees, and I believe they have plenty of honey to keep them during the winter.

Late Drones. — A. H. Wadham, West Torrington,⊸ Conn., on Oct. 26, 1885, writes:

Last March I obtained 2 colonies of black bees in box-hives, one of them being a swarm that issued during the first week in August, 1884, and yet as late as it was they stored honey enough to winter on the summer stand without protection, until I got them, when I fed them a little syrup. The stronger colony (according to the advice of those who had formerly kept bees in that way) I put inside of a large hive 2½x2½ feet and 4 feet 2 inches high, the back side of which was movable so that I set the old hive right in and closed them up. My object in so doing was to avoid swarming, and I was successful as far as swarms were concerned. They did not swarm, and compared with the other colony which did swarm, they did very well. About Oct. 1, I opened the large hive and took out 60 pounds of very fine clover and basswood honey, and they seemed to be very strong in bees. But what induced me to write the foregoing was the drones of the colony. The air was full of them two or three times during July, and for 5 or 6 weeks I have found the colony driving out drones on every Sunday morning (this being the only day that I am at home during bee-hours). Why is it that the drones are so thick with that colony at this late day, and the other colony not having had a drone around for two months or more? Since writing the above I have seen plenty of drones around, although there was a frost last night. I read the Bee Journal with much interest, and though much is now known about the "busy bee" and its habits, yet I think apiculture is only in its infancy.

[Many of our colonies do not present a drone during the entire summer, because they have no drone comb in which to hatch any. That *may* be the case with your smallest colony. Your large hive contains much drone comb and hoards of drones. It requires considerable time for the workers to drive out and kill so many, especially in so large a hive; but from the fact that they are now prosecuting that work, there is no reason to think that they are not queenless.—James Heddon.]

Building-up Colonies—Swarming.—J. T. B. asks the following question:

If I should use Mr. Doolittle's plan of building-up colonies in the spring, and should have all of my hives full of brood by May 1, with an average season at what time may I look for swarming to begin, as a rule?

[My bees swarm, as a rule, about 2 weeks after the hive is full of brood. In this locality from June 1 to June 15 is as soon as this (the hive full of brood) can be accomplished. The flow of honey has much to do with the swarming, however.—G. M. Doolittle.]

Any person not a subscriber, receiving a copy of this paper, will please consider it an invitation to become a subscriber to it.

The Time for Reading has now come. The long winter evenings can be utilized by reading up bee-literature. We have all the newest bee-books and can fill all orders on the day they are received.

When Renewing your subscription please try to get your neighbor who keeps bees to join with you in taking the Bee Journal. It is now *so cheap* that no one can afford to do without it.

☞ The Central Michigan Bee-Keepers' Association will meet in the Pioneers' Rooms in the State Capitol, at Lansing, Mich., at 9 a. m., on Nov. 12, 1885. All who have bees or are interested in bee-culture, are invited to attend. E. N. Wood, *Sec.*

Honey and Beeswax Market.

Office of the American Bee Journal,
Monday, 10 a. m., Nov. 9, 1885.

The following are the latest quotations for honey and beeswax received up to this hour:

CHICAGO.

HONEY.—It is in good demand, and for the best grades of white comb honey 15@16c. is obtained. Off-colored and dark find very slow sale. Extracted is steady at 5@8c. per lb.

BEESWAX.—24@25c. Offerings of honey and wax are light.

R. A. Burnett, 161 South Water St.

BOSTON.

HONEY.—It is selling very well but prices are very low, and we are often obliged to shade our prices in order to make rates. We quote comb honey in 1-lb. sections at 14@16c., and 2-lb. sections at 12@14c. Extracted, 6@8c.

BEESWAX.—30 cts. per lb.

Blake & Ripley, 57 Chatham Street.

NEW YORK.

HONEY.—The market for comb honey is quite active, and the demand nearly equal to the supply. Prices are gradually shading, owing to the fact of many producers selling their entire crop in this city at very low prices, thereby enabling the purchasers to sell low and realize a handsome profit. Large lots have been sold here at 9@10c. for fancy goods. In consequence of no honey coming in from the West, we can see no reason why good prices should not be obtained, except as above stated. Present quotations are: Fancy white 1-lb. sections, 14@15c.; the same in 2-lb. sections, 11½@12½c.; fancy buckwheat honey in 1-lb. sections, 11@12c.; in 2-lbs., 9@10c. Off grades 1 to 2c. less.

BEESWAX—Prime yellow, 25@28c.

McCaul & Hildreth Bros., 34 Hudson St.

CINCINNATI.

HONEY.—There is no material change in the market. Demand is slow for manufacturing purposes, while the trade is fair in comb and extracted honey for table use. Arrivals are good. Choice comb honey brings 14@16c. per lb. in a jobbing way, and extracted honey, 4@8c., according to quality.

BEESWAX.—Home demand is fair, and it brings 20@22c. for choice yellow, on arrival.

C. F. Muth, Freeman & Central Ave.

SAN FRANCISCO.

HONEY.—Arrivals are quite light, with a probability of so continuing through the balance of the season. There is some inquiry for best qualities, with a firm market for the same. Quotations are as follows: White to extra white comb, 9@11c.; dark to good, 5@8c. Extracted, white liquid, 5@5½ cts.; light amber colored, 4½@5c.; amber and candied, 4¼c.

BEESWAX.—Quotable at 23@25c., wholesale.

O. B. Smith & Co., 423 Front Street.

CLEVELAND.

HONEY.—The market since our last report has improved very much and there is a good opening for very choice white 1-lb. sections, for which 14@15c. is obtained. Our stock of new is very light at present but of the old we have a good supply which we sell at 10@13c. for white 1-lb. sections. Extracted honey is slow at 6@7c. for best white clover and basswood.

BEESWAX.—Very scarce at 20@22c.

A. C. Kendel, 115 Ontario Street.

KANSAS CITY.

HONEY.—The demand for all kinds of honey is good and prices are much improved. Choice 1-lb. sections bring 16@17c. on arrival, and demand is in excess of receipts. It would be better to ship now while the weather will admit, as it will come in good shape and bring good prices. Two-pound sections are sold now nearly altogether from California stock, as it is cheaper than any other kind; 12½@14c. being the ruling rates for it. Extracted is in fair demand at 4@5c. for dark, and 6@8c. for light.

BEESWAX.—It is a little firmer at 23c. for good average.

Clemons, Cloon & Co., cor. 4th & Walnut.

Bee-Keepers' Badges at Fairs.

We have some **ELEGANT RIBBON BADGES**, having a rosette and gold Bee, for bee-keepers' use at Fairs, Conventions, etc. Price 50 cents each, by mail, postpaid.

THOMAS G. NEWMAN & SON,
923 & 925 West Madison St., CHICAGO, ILL.

WEEKLY EDITION
OF THE
AMERICAN
ESTABLISHED IN 1861
OLDEST BEE PAPER IN AMERICA
BEE JOURNAL
PUBLISHED BY
THOMAS G. NEWMAN & SON,
PROPRIETORS,
923 & 925 WEST MADISON ST., CHICAGO, ILL.
Weekly, $2 a year; Monthly, 50 cents.

ALFRED H. NEWMAN,
BUSINESS MANAGER.

Special Notices.

SPECIAL NOTICE.—On January 1,1886, the price of the Weekly BEE JOURNAL will be reduced to *One Dollar a Year*. This we have contemplated for some years, and only awaited the proper time to warrant us in issuing the Weekly BEE JOURNAL at the very low price of *one dollar* a year. That time has now come. We shall continue to improve the BEE JOURNAL, and it will maintain its proud position as the leading bee-paper of the World!

New subscribers will be supplied with the Weekly from now until the end of the year 1886, for **$1.25.**

Those who have already subscribed for any portion of *next year* will have the time beyond January 1st doubled. These changes in the mail-list type are already made.

◆

"Don't Stop"—that is what many write to us about their papers, when their time is nearly out. One subscriber says: "This has been a year of disaster, and it is not convenient for me to send you the money now to renew my subscription. It runs out with this month; *but don't stop sending it*. I will get the money to you within three months." Such letters are coming every day, and so for the present we have concluded not to stop any papers until requested to do so.

◆

Agents can sell the Guide and Hand-Book like "hot-cakes." Send us an order for five copies (with $2.50) and we will send you the Weekly BEE JOURNAL *free* for a year. This is a *rare* opportunity to get the Weekly BEE JOURNAL without cost!!

◆

The Guide and Hand-Book, is a book of ready reference and an encyclopædia of everything desirable to know. As a guide to the home-seeker, it is invaluable. Its contents are partially given on page 718, and will convince any one of its value. We do not think any of our readers can afford to do without it. As a book of ready reference we find it of great value in our library. We will send the Weekly BEE JOURNAL for a year and the Guide for $1.30.

Honey as Food and Medicine.

☞ To create Honey Markets in every village, town and city, wide-awake honey producers should get the Leaflets "Why Eat Honey" (only 50 cents per 100), or else the pamphlets on "Honey as Food and Medicine," and scatter them plentifully, and the result will be a DEMAND for all of their crops at remunerative prices. "Honey as Food and Medicine" are sold at the following prices:

Single copy, 5 cts.; per doz., **40** cts.; per hundred, **$2.50.** Five hundred will be sent postpaid for **$10.00;** or **1,000** for **$15,00.** On orders of **100** or more, we will print, if desired, on the cover-page, "Presented by," etc. (giving the name and address of the bee-keeper who scatters them).

To give away a copy of "Honey as Food and Medicine" to every one who buys a package of honey, will sell almost any quantity of it.

◆

The Western World Guide and Hand-Book of Useful Information, contains the greatest amount of useful information ever put together in such a cheap form. The printing, paper, and binding are excellent, and the book is well worth a dollar. To any one sending us two *new* subscribers besides their own, with $3, for one year, we will present a copy of this valuable book.

◆

☞ Our rates for two or more copies of the book, "Bees and Honey," may be found on the Book List on the second page of this paper. Also wholesale rates on all books where they are purchased "to sell again."

◆

☞ **Sample Copies** of the BEE JOURNAL will be sent FREE upon application. Any one intending to get up a club can have sample copies sent to the persons they desire to interview by sending the names to this office, or we will send them all to the agent.

◆

Preserve your papers for reference. If you have no **BINDER** we will mail you one for 75 cents, or you can have one FREE if you will send us 4 new yearly subscriptions for the BEE JOURNAL.

◆

To Correspondents.—It would save us much trouble, if all would be particular to give their P. O. address and name, when writing to this office. We have several letters (some inclosing money) that have no name; many others having no Post-Office, County or State. Also, if you live near one post-office and get your mail at another, be sure to give the address we have on our list.

◆

We have received E. H. Cook's Club-List of Newspapers, Magazines, etc., for 1886. He is the successor of G. M. Doolittle in this business, at Andover, Conn.

HELP for working people. Send 10 cents postage, and we will mail you *free*, a royal, valuable sample box of goods that will put you in the way of making more money in a few days than you ever thought possible at any business. Capital not required. You can live at home and work in spare time only, or all the time. All of both sexes, of all ages, grandly successful. 50 cents to $5 easily earned every evening. That all who want work may test the business, we make this unparalleled offer: To all who are not well satisfied we will send $1 to pay for the trouble of writing us. Full particulars, directions, etc., sent free. Immense pay absolutely sure for all who start at once Don't delay. Address STINSON & CO.
51A1y Portland, Maine.

Advertisements.

HONEY

WE are now in the market, and will be during the entire season, for all honey offered us, in any quantity, shape, or condition—just so it is pure. We will sell on commission, charging 5 per cent.; or, if a sample is sent us, we will make the best cash offer the general market will afford. We will handle beeswax the same way, and can furnish bee-men in quantities, crude or refined, at lowest market prices. Mr. Jerome Twichell, our junior member in this department, has full charge, which insures prompt and careful attention in all its details.

Sample of comb honey must be a full case, representing a fair average of the lot. On such sample we will make prompt returns, whether we buy or not.

CLEMONS, CLOON & CO.,
36A17 KANSAS CITY, MO.

W. Z. HUTCHINSON,
Rogersville, Genesee Co., Mich.,

CAN furnish neat, white, basswood shipping-crates, in the flat, at 6 cents each. Sample, by express, nailed up, 10 cents.
44Atf

Use the boss Zinc and Leather Interfering Boots and Collar Pads. They are the best.
45D6t

SCIENTIFIC AMERICAN
ESTABLISHED 1846.

The most popular **Weekly** newspaper devoted to science, mechanics, engineering discoveries, inventions and patents ever published. Every number illustrated with splendid engravings. This publication furnishes a most valuable encyclopedia of information which no person should be without. The popularity of the SCIENTIFIC AMERICAN is such that its circulation nearly equals that of all other papers of its class combined. Price, $3.20 a year. Discount to Clubs. Sold by all newsdealers. MUNN & CO., Publishers, No. 361 Broadway, N. Y.

PATENTS. Munn & Co. have also had **Thirty-Eight years'** practice before the Patent Office and have prepared more than **One Hundred Thousand** applications for patents in the United States and foreign countries. Caveats, Trade-Marks, Copy-rights, Assignments, and all other papers for securing to inventors their rights in the United States, Canada, England, France, Germany and other foreign countries, prepared at short notice and on reasonable terms.

Information as to obtaining patents cheerfully given without charge. Hand-books of information sent free. Patents obtained through Munn & Co. are noticed in the Scientific American free. The advantage of such notice is well understood by all persons who wish to dispose of their patents.

Address MUNN & CO., Office SCIENTIFIC AMERICAN, 361 Broadway, New York.

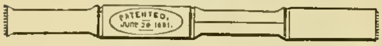
Bingham Smokers
AND
HONEY-KNIVES.
Send for Circulars.
Bingham & Hetherington,
ABRONIA, MICH.

BARNES' FOOT-POWER MACHINERY.

Read what J. I. PARENT, of CHARLTON, N. Y., says—"We cut with one of your Combined Machines, last winter, 50 chaff hives with 7 in. cap, 100 honey-racks, 500 broad frames, 2,000 honey-boxes and a great deal of other work. This winter we have double the amount of bee-hives, etc., to make and we expect to do it with this Saw. It will do all you say it will." Catalogue and Price-List Free. Address, W. F. & JOHN BARNES,
45Ctf No. 196 Ruby St., Rockford, Ill.

"BOSS" ONE-PIECE SECTIONS.

Patented June 28, 1881.


PATENTED JUNE 28 1881.

One-lb. (4¼x4¼) in lots of	500 to 4,000	$5.00
Ditto Ditto	5,000 to 10,000	4.50
Ditto Ditto	10,000 to 25,000	4.00

The one-lb. Section is 17 inches long. For any sizes between 17 and 20 inches in length, add 5 per cent. For any sizes between 20 and 24 inches, add 10 per cent. Add the above per centage to the price of one-lb. Sections in the same quantities.

We make any size or width desired.

J. FORNCROOK & CO.,

BCtf Watertown, Wis., Mar. 1, 1885.

☞ Thos. G. Newman & Son, of Chicago, sell the one-piece Sections manufactured by us.

The Western World

GUIDE and HAND-BOOK

OF USEFUL INFORMATION.

For HOME SEEKERS or Tourists, Capitalists or Laborers. A vast amount of information not to be found elsewhere at any price.

A cloth-bound book, 4x7 inches, 288 pages

Price, 50 Cents.

The following is only a part of the Contents:

Colored Maps of all the States and Territories, including Alaska and District of Columbia.

Diagrams showing area, population, products, Government, State, School and Indian Lands of the several States.

Histories of each of the States from the Earliest Times.—Descriptive of their Topography, Soil, Climate, Rivers, Mountains, Natural Wonders, Population, Area, Islands, Lakes, Mines, Products, Manufactures, Industries, Cities, School Systems, Collection and Exemption Laws, Date of Holding Elections, Number of Representatives, Senators, Congressmen, and Presidential Electors, Number of Union and Confederate Soldiers in the Field, Price of Land Cleared and in Forest, Extent of Forest, Number of Different Callings, Rate of Interest, Usury Laws, PEDDLER OR DRUMMERS' LICENSE LAWS, DIVORCE LAWS, MINING LAWS, DESCRIPTION OF PUBLIC LANDS, LIST OF LANDS SUBJECT TO THE FORMS OF ENTRY, List of Land-Offices, Opportunities for Homes or Enterprise, Rainfall, Health, Ports of Entry, Population (male, female and foreign) Number of Indians, Mineral Resources, Nicknames of States and for whom or what they are named, Miles of Railroad and Canals, Tidal Frontage, STATE LAND LAWS, Religious Denominations and their Numbers, Number of Counties and Names.

Government Land Laws giving complete law on the subject of PRE-EMPTION HOMESTEAD, TIMBER CULTURE, SOLDIERS' HOMESTEAD, SWAMP LANDS, LAND WARRANTS, SCRIP, INDIAN TRUST LANDS, DESERT LANDS, COAL LANDS, TIMBER LANDS, MINERAL LANDS, AGRICULTURAL COLLEGE LANDS, ETC.

How to Acquire Lands of any kind belonging to the Government by any forms of entry, who may acquire them, and the different laws applicable to the different sections.

Postal, Pension and Patent Laws of the United States.

Coats-of-Arms of the States and Views of Celebrated Places, and of life in different regions.

Rules for measuring Lumber, Logs, Grain, Liquids, Tables of Weights and Measures of all kinds, Interest Rules and Tables, Lumber Tables.

Systems of Land Measures in various parts of the United States.

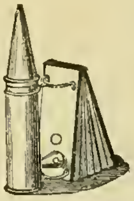
Contains also a Million useful facts.

The Weekly Bee Journal, for one year, and the Guide, postpaid, for $1.30.

THOS. G. NEWMAN & SON,

923 & 925 West Madison St., CHICAGO, ILL.

Dadant's Foundation Factory, wholesale and retail. See Advertisement in another column.



Bee-keepers' Supplies,

Standard Langstroth,

Quinby Standing-Frame,

And all other kinds of **Hives**,

MADE TO ORDER,

Quinby Smoker a specialty.

I shall supply anything you need in the Apiary. Send for Illustrated Price List.

W. E. CLARK, successor to L. C. Root,

7A1y ORISKANY, Oneida County, N. Y.

THE BRITISH BEE JOURNAL

AND BEE-KEEPER'S ADVISER.

The BRITISH BEE JOURNAL is published SEMI-MONTHLY, at Seven Shillings per annum, and contains the best practical information for the time being, showing what to do, and when and how to do it.

The British Bee Journal and our Weekly for $2.50.

THE INVERTIBLE HIVE!

INVERTIBLE FRAMES,

Invertible Surplus Honey Cases,
Entrance Feeders, Top and Bottom Feeders,
Hive-Lifting Device, Honey Extractors,
Wax Extractors, Comb Foundation, etc.

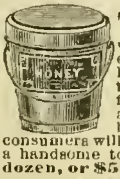
☞ My new Illustrated Catalogue is now ready, and will be mailed to all who may apply for it. Address,

J. M. SHUCK,

DES MOINES, IOWA.

10A1y

NEW ONE-POUND HONEY PAIL.



THIS **new size of our** Tapering Honey Pails is of uniform design with the other sizes, having the top edge turned over, and has a bail or handle,—making it very convenient to carry. It is well-made and, when filled with honey, makes a novel and attractive small package, that can be sold for 20 cents or less. Many consumers will buy it in order to give the children a handsome toy pail. **PRICE, 75 cents per dozen, or $5.00 per 100.**

THOS. G. NEWMAN & SON,

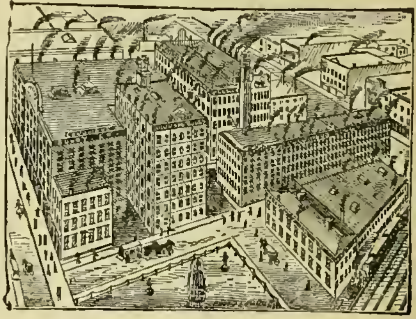
923 & 925 West Madison Street, CHICAGO, ILL.

A PRIZE, Send six cents for postage, and receive free, a costly box of goods which will help you to more money right away than anything else in this world. All, of either sex, succeed from first hour. The broad road to fortune opens before the workers, absolutely sure. At once address TRUE & Co., Augusta, Maine.

51A1y

COLUMBUS BUGGY CO.,

COLUMBUS, OHIO.



(View of our Factory.)

MANUFACTURERS OF

STRICTLY

FIRST-CLASS VEHICLES

At New Orleans World's Exposition was awarded 1st. Premium for finest display of Vehicles, against 64 Competitors.

The justly **celebrated Brewster** cross-spring **side-bar** being our great specialty, we build **only one grade** of work, and that of **the best** in **quality and style.** We do not make the lowest priced vehicles, but claim that ours are the **cheapest in the world** when **quality** is considered. We use the **finest material** obtainable, employ only **expert** and **competent mechanics.** To insure the best and most uniform results, we now **manufacture our own wheels** from **finest timber** (sawed by our own mills) that can be obtained from the hills of Southern Ohio—famous as the **second growth hickory** district.

The reputation of the **Columbus Buggy Company** is unexcelled. The work is known and sold throughout the **entire** United States and Territories. Well introduced in England, Germany, Australia and South America.

Send for Catalogue and prices, and the name of the nearest dealer will be sent. 41A6t

---

GREEN'S FRUIT GUIDE

64 pages, with colored plate, illustrated, price 5 cts. "How to Propagate and Grow Fruit," 64 pages, 2 colored plates, 50 illustrations. price 50 cents.

GREEN'S FRUIT GROWER, price 50 cents per year. Sample copy free. Address,

GREEN'S NURSERY CO.,
Rochester, N. Y.

$200,000 *in presents given away.* Send us 5 cents postage, and by mail you will get *free* a package of goods of large value, that will start you in work that will at once bring you in money faster than anything else in America. All about the $200,000 in presents with each box. Agents wanted everywhere, of either sex, of all ages, for all the time, or spare time only, to work for us at their own homes. Fortunes for all workers absolutely assured. Don't delay. H. HALLETT & Co.

51A1y Portland, Maine.

Muth's Honey Extractor,

Square Glass Honey Jars, Tin Buckets,

Langstroth Bee-Hives, Honey-Sections, etc.

Apply to **CHAS. F. MUTH,**

Freeman & Central Ave., - CINCINNATI, O.

☞ Send 10c. for Practical Hints to Bee-Keepers.

WEEKLY EDITION
OF THE
AMERICAN
ESTABLISHED IN 1861
OLDEST BEE PAPER IN AMERICA
BEE JOURNAL

THOMAS G. NEWMAN,
EDITOR.

Vol. XXI. Nov. 18, 1885. No. 46.

APICULTURAL NEWS ITEMS.

EDITORIAL AND SELECTED.

It is an Invariable Rule—You must become wise at your own expense.

More than 740 Years before the Christian era, it is stated that Eumelus, of Corinth, wrote a poem on bees—that is more than two thousand years ago.

The British Bee Journal is to be published weekly in 1886, at 10s.6d. per annum. We will club it and our Weekly for $3.50 to any post-office in the United States or Canada.

To Destroy Insects, says the *Journal of Chemistry*, put alum into hot water and let it boil until it is all dissolved ; then apply to all cracks, closets, bedsteads and other places where any insects are found. Ants, bed-bugs, cockroaches and creeping things are killed by it, while it has no danger of poisoning the family or injuring property.

Long Visits—Long stories—long articles—seldom profit those who have to do with them. Life is short ; time is short ; moments are precious. Learn to condense, to abridge, and intensify. We could endure many an ache and ill if it is soon over, while even pleasures grow insipid and pain intolerable if protracted beyond the limit of reason and convenience. Learn to be short; lop off branches ; stick to the main fact ; condense two words into one, and three into two ; learn to be short.—*Philadelphia Grocer*.

Paper and Cork are said to be two of the best materials of which to make bee-hives. Sallust recommends cork for making hives. One writer says that Varo, fifty years B. C., recommended hives to be made of basket-work, wood, bark, pottery, reeds, etc., and to be contractible according to the size of the colony. He also recommended a pane of transparent stone, so as to enable the bee-keeper to see the workings of the hive.

☞ **Sample Copies** of the BEE JOURNAL will be sent FREE upon application. Any one intending to get up a club can have sample copies sent to the persons they desire to interview by sending the names to this office, or we will send them all to the agent.

Bees Biting Flowers.—In last week's BEE JOURNAL, on page 712, C. M. Weed presented some arguments intending to show that bees (in some isolated cases) bore for sweets into the corolla-tubes of some flowers, "near the base, from the outside." We intended to have added a foot-note to that article, but it was overlooked until the BEE JOURNAL was "on the press." We intended to have cautioned those who so often assert that bees "bite the skin of grapes" and other fruits, against confounding the *delicate corolla* of a flower with the *tough skin* of ripe fruits.

The corolla is "the inner covering of a flower ; the part which surrounds the organs of fructification, and is composed of one or more leaves called *petals*. It is usually distinguished from the perianth by the fineness of its texture and the gayness of its colors. This "fine texture" is an entirely different thing from the *tough* exterior coat or *skin* of fruits, and a proper discrimination must be made between the two.

Bees for Defense have been employed in all generations. The London *Times* mentions the following instances :

A small privateer, manned by fifty men, having on board some hives of bees, was pursued by a Turkish galley manned by 500 seamen and soldiers. When the latter came alongside, the crew of the privateer mounted the rigging with their hives and threw them upon their foes, who, astonished at this novel mode of warfare, hastened to escape from the fury of the enraged bees. Another instance occurred when a rabble at Hohnstein, in Thuringia, attempted to pillage the house of the parish minister; he caused some bee-hives to be thrown among the mob, which, in consequence, soon dispersed. Again, Vauban narrates how bees played an important part at the siege of Chatte, in Lorraine. After a siege the town was being stormed, and during the assault the besieged threw a few hives of bees upon the heads of the storming party. The little creatures stung the besiegers so dreadfully that they had to retire; and the historian tells that "the bees were not the least cause of the seige being abandoned."

We have Received a keg of Mr. James Heddon's extracted clover honey, which is of excellent quality ; thick, well-ripened, and pleasant to the taste. Also a crate of honey in half-pound sections, of the same quality. Both were prepared for the market in such a manner that not a drop of leakage can be discovered, though they were shipped by freight. This argues much in favor of the use of kegs for extracted honey—such packages are so easily handled and convenient that they find ready sale when large barrels are begging for a customer. The "sections" were packed in a crate with glass sides, showing the honey, to captivate consumers by its excellent appearance. It pays to prepare honey for the market in such a workmanlike manner.

We have also received comb honey from many others which came in like excellent condition, without a drop of leakage. Among these shippers we may mention Mr. Joshua Bull, Seymour, Wis. ; Mr. O. H. Townsend, Alamo, Mich. ; Mr. John Motl, Watertown, Wis. ; and Mr. E. J. Scofield, Hanover, Wis.

On the other hand, we have had shipments that came in a very dilapidated condition. We mention these things to try to encourage shippers to be more particular in preparing honey for market—for such is to the interest of every honey-producer. It *can* be done, and there is no excuse for not doing it.

The National Convention will be held at Detroit, Mich., on Dec. 8, 9 and 10, 1885. The "usual call" for this Convention has not yet been published, for some unexplained reason, in any bee-paper—though it is now only 3 weeks to the day of meeting. We copy from *Gleanings* of Nov. 1, the following programme as far as completed :

Reversing Combs, James Heddon.
Bee-Pasturage, Thomas G. Newman.
Marketing Honey, C. F. Muth.
Production of Extracted Honey, Chas. Dadant & Son.
Production of Comb Honey, G. M. Doolittle.
The Pollen Theory, Prof. A. J. Cook.
Selling and Shipping Bees by the Pound, E. M. Hayhurst.
Comb Foundation, John Vandervort.
Wintering Bees, Ira Barber.
Excellence or cheapness—which? A. I. Root

The President of the Michigan Agricultural College, Mr. Willitts, will be present, and welcome the society to Michigan. It will be remembered that he is the one who helped Prof. Cook to get the ruling that allows us to send our queens by mail. He will give us a "rouser." I have met him, and I know that he is capable of it.

The evening sessions will be devoted to answering questions. There will be a question box, and all questions that come up during the day, will be written out and dropped into the box, and at the evening session they will be taken out and discussed Any one who will not be present can send questions to me at any time previous to or during the meeting, and I will put them into the box. If any questions are sent to me during the meeting, send them to Detroit, care of the Antisdel House. The present indications are that the coming meeting will be one of the most pleasant, interesting, and successful ever held by the Society, and I sincerely hope that as many of you as possible may be present to participate in the "good time." W. Z. HUTCHINSON.

On page 728, Mr. Cutting gives full directions about getting certificates for reduced fare on the railroads, etc., which all who intend to go to Detroit should read at once.

The meetings of the National Society will be held in the "Red Men's Wigwam," opposite the "Antisdel House," on Michigan Avenue, Detroit, on the second Tuesday, Wednesday and Thursday in December. There are four societies that will meet at the same time and place, in a union meeting, viz. : The North American Bee-Keepers' Society, The Northwestern Bee-Keepers' Society, The Michigan State Bee-Keepers' Association, and The Southeastern Michigan Bee-Keepers' Association.

Mr. Cutting says that "a committee will be at the 'Antisdel House,' ready to receive all strangers ; also at the Hall opposite the Hotel. A large sample room will be placed at our disposal at the Hotel, to exhibit bees, honey, supplies, etc. The Hotel and Hall is located in the centre of the city, about 20 rods from the City Hall, on Michigan Avenue. Lines of street-cars from each depot bring you within one block."

We have every reason to think that a large number of bee-keepers will be in attendance from different States, and many from Canada. The Editor of the AMERICAN BEE JOURNAL intends to be present, and he expects all the other bee-papers will be represented by their editors. The Rev. L. L. Langstroth will be present, if his health permits. Let all who can do so, make arrangements to be present.

The National Bee-Keepers' Union is growing slowly. See list of members on page 730. By this time there should have been thousands.

QUERIES

WITH

REPLIES by Prominent Apiarists.

Wintering Queens in Nuclei.

Query, No. 157.—Can I winter 2 or 3 nuclei in one hive by putting in division-boards? I want to winter a few queens belonging to colonies from which the honey was taken. There are 12 of them.—S., Marshall Co., Iowa.

Sometimes they do well thus prepared ; but oftener they die. A trial will decide the matter in your case.—G. M. DOOLITTLE.

I tried a few cases and succeeded fairly well.—C. C. MILLER.

Yes. But the division-boards must fit bee-tight, so that no communication takes place between the occupants of the two or three apartments. Otherwise the queens are likely to be "balled" and killed. I lost a queen only a week or so ago, from that cause.—G. W. DEMAREE.

Such has been done. Much depends upon your wintering method. Most of us are not yet able to winter any kind of colonies with any great degree of certainty.—JAMES HEDDON.

In a good cellar it is easy. I find it no trouble to winter nuclei even alone.—A. J. COOK.

Yes; but the division-boards must be thin, and there must be enough bees to cover all of the combs, separate entrances being provided.—G. L. TINKER.

It can be done if care is taken to make the divisions perfectly "tight."—W. Z. HUTCHINSON.

Yes, it can be done with a great deal of care. It is not usually safe.—CHAS. DADANT & SON.

Yes, by taking care in packing them. The same dangers are to be feared that exist in wintering any colony, and no one can tell whether success or failure will follow. I have wintered nuclei in the manner inquired about, and so I say decidedly, it can be done.—J. E. POND, JR.

◆

Queens Beginning to Lay.

Query, No. 158.—How soon after "mating" does the queen usually commence laying?—M. D.

From 36 to 60 hours.—G. M. DOOLITTLE.

The time varies from one to three days ; and sometimes apparently even longer.—JAMES HEDDON.

She usually begins to lay in 72 hours after she is mated, but she sometimes lays a day sooner, and more frequently a day or two later.—G. W. DEMAREE.

Mated late in the fall they may not lay until the next February or March. They usually begin to lay in 2 or 3 days.—G. L. TINKER.

Three days.—W. Z. HUTCHINSON.

Ordinarily from 6 to 8 days. I had a queen this summer that was laying in 6 days after she emerged from the cell. She was an exception, though.—J. E. POND, JR.

A couple of days, more or less.—CHAS. DADANT & SON.

Two or three days.—A. J. COOK.

I have never observed closely as to the point in question, but generally look for eggs about 12 days after a queen hatches. She may commence, and I think usually does, before that time, but it is hardly economy to look till she has laid quite a number of eggs.—C. C. MILLER.

◆

Italians or Hybrids?

Query, No. 159.—As honey-gatherers, which are the best—light Italian bees, dark ones, or hybrids? If hybrids, which are the better to breed from, the light or dark Italians?—Marion, Ind.

Dark Italians.—W. Z. HUTCHINSON.

A pure Italian queen mating with a black drone will give bees second to none as to honey gathering.—G. M. DOOLITTLE.

Volumes have been written on this subject, and it remains not entirely settled. I do not know which is best.—C. C. MILLER.

My experience is as follows: Dark Italians (the leather colored) are better than light Italians as honey-gatherers and comb builders. Crosses between the dark Italians and the larger brown Germans are equally as good gatherers, and better comb builders than any Italians.—JAMES HEDDON.

Dark Italians and hybrids are about equal according to my observation. I prefer the dark Italians to the light at all times, and for all purposes.—A. J. COOK.

The Italians are undoubtedly the best. The light Italians will do as well as the darker, provided they are not bred in-and-in for color at the expense of other qualities, as is very often the case among queen-breeders.—CHAS. DADANT & SON.

Bright Italians, in my opinion. Others think differently, and I hazard the guess that the answers to this question will vary from bright Italians to hybrids. I should prefer to breed hybrids from bright Italians, but opinions vary as above.—J. E. POND, JR.

There is very little difference between the dark and light strains of Italians, as to their working qualities. I prefer the light strain, because as breeders they transmit their own peculiarities with more certainty than do the less-pure dark strain. Some hybrid colonies are just as good workers as are the pure bees, but they do not average as well. A cross should always be made from pure parentage on both sides, if possible, and the light Italians possess the strongest characteristics of the Italian race, which itself is hybrid of long standing.—G. W. DEMAREE.

Dark Italian bees are sometimes better than light ones, and again they are not. The close inter-breeding of any race leads to indolence. This trouble can all be averted by judicious crossing, and the best qualities of any race be made to appear. But all hap-hazard crossing is very uncertain of result. Bee-keepers have it in their power to control the mating of queens at a small expense, and the time is coming when more attention will be devoted to this matter. I believe that three years of careful and intelligent crossing of bees will accomplish more than 300 of natural selection. Hybrids are so often valuable because of the infusion of new blood.—G. L. TINKER.

◆

Bees Killing a Queen.

Query, No. 160.—As I was extracting honey on Oct. 12, I brushed the queen from a frame down on the enameled cloth, and then put her on a frame in the hive, when the bees immediately killed her. How is this accounted for?—J. S. G., Minn.

The bees were irritated from the brushing, and took the queen for a stranger.—G. M. DOOLITTLE.

The queen had acquired a foreign scent in handling, and the colony being annoyed by robber bees, she was treated as an intruder.—G. L. TINKER.

Because she was found where she was not expected to be, and thus looked upon as an intruder.—W. Z. HUTCHINSON.

Bees will sometimes attack their queen if she is frightened and acts like a strange queen, especially at a time when they are not busy storing.—C. C. MILLER.

From some cause or other a queen is sometimes taken for an intruder by her bees after she has been handled. This is scarce however. It might be also that she was damaged or crippled in handling.—CHAS. DADANT & SON.

It is hard to account for the conduct of bees under such circumstances as you mention. Did a bee sting her? or was she "balled" to death? If she was stung, a robber bee may have attacked her; if she was "balled," it was the result of the severe scare she received when finding herself tumbled back into the hive. It is unsafe to alarm a queen in the hive under certain circumstances. Last spring I lost several good queens by having them "balled," there being no other cause than what resulted from carefully opening the hives.—G. W. DEMAREE.

I agree with Mr. D. A. Jones and others, that the motions or actions of a queen are often what governs the treatment of the bees towards her. In this case the queen was doubtless stunned, and this may have led to such motions that she was dispatched by the bees as objectionable.—A. J. COOK.

It is a peculiarity of bees that they will at times kill their queen when she is brushed into a hive suddenly. My explanation is, that the bees have not missed their queen, and when she is suddenly dropped in their midst she is taken for a stranger.—J. E. POND, JR.

When for any reason the workers are living in a state of jealousy regarding their queen, they are very apt to "lay at her door" the blame for every disagreeable circumstance—such as the disturbance created by opening the hive, upon which occasion they often "ball," sting and kill her. —JAMES HEDDON.

CORRESPONDENCE

Explanatory.—The figures BEFORE the names indicate the number of years that the person has kept bees. Those AFTER, show the number of colonies the writer had in the previous spring and fall, or fall and spring, as the time of the year may require.

This mark ⊙ indicates that the apiarist is located near the centre of the State named: ♁ north of the centre; ♀ south; O+ east; +O west; and this ♂ northeast; \O northwest; O\ southeast; and ⚲ southwest of the centre of the State mentioned.

For the American Bee Journal.

Judging Exhibits by Scale of Points.

H. D. CUTTING.

To do the judging for a bee and honey exhibit is an undertaking of no small magnitude. When the committee consists of three, you can make it all right with a dissatisfied exhibitor, as far as yourself is concerned, by saying, "'Twas the other fellow that did it." But when you are filling the position of "Expert," the case is different. You only have your own experience and judgment to go by, and without a scale of points to help, it is no easy task.

In many departments at an Exhibition you will find the "score cards" used, and all judging done by an established scale of points. In the cattle, sheep, hog, poultry and dairy departments the judging is done by the "scale." I cannot see why it cannot be done in the apiarian department as well as any of the above. I know that in many cases where I have acted in the capacity of judge I have been obliged to use a scale of points to decide, especially where competition was very close. It has been a great help to me, and I know it must be to others. A system of this kind once adopted will prove of such value to exhibitors that no well-conducted exhibition will be judged with the use of score blanks.

With the promiscuous judging at present in usage an exhibitor does not know what to do. For instance, this year you make an exhibit of a certain line—say extracted honey put up in jars; the judge examines it closely for color, body, flavor, manner of putting up, etc., and he decides you have the best-flavored and best-colored honey and gives you the first premium. So next year you work for flavor, color, etc., and along comes another judge, picks up a jar, tips it upside down, notes the time for the air globule to rise, and gives the first to the exhibitor on the north side of the building, as his honey has the most body. Mind you, he does not draw a cork or sample in a single case, so you are left in the dark as what to do next year. If you knew that you were to have the same judge again, you would put a few jars on ice and be ready for him. But if a system was adopted where all judging could be done by the standard, then all these little failures would be done away with, and then each exhibitor would know just what to work for, and in this way we could elevate this above the jockey system of preparing exhibits.

The question now is, can we adopt a standard for our rule and guidance in preparing an exhibit, and have it judged by said standard? I wish the readers of this would give it their careful consideration and publish their views, that we may, in the near future, adopt a standard. It cannot be done all at once, and no one man should undertake to do it all. We should have the ideas of all progressive apiculturists.

Clinton, ♀ Mich., Nov. 9, 1885.

For the American Bee Journal

How I Winter my Bees.

C. E. JONES.

I would like to give my experience in wintering bees. I have been keeping bees for 15 years. I began by hunting wild bees in the woods, climbing the trees and cutting the combs out, and I know pretty well how they winter in their natural home. I cut out 14 colonies in one fall, and I found most of the hollows were about one foot in diameter and three to five feet long, with the honey always at the top, and generally without upward ventilation.

For the last five years I have used 8 different kinds of frame hives, and I find by experience that the tall hives will do without ventilation at the top better than the shallow ones, because the bees keep the top part of the hive warm, so that no condensed moisture is formed. When the heat formed by the bees comes in contact with some parts of the hive that is not warm, there water forms. If we could keep the outside frames in the shallow hives as warm as it is above the cluster of bees, they would need no upward ventilation.

I knew a successful bee-keeper in Missouri that kept his bees in tall hives without bottoms; the hives sat on tressels 2 feet high, and wide enough apart to let the outside edges of the hive rest on the tressels, and the bottoms were left open all winter without ventilation at the top.

Two years ago this fall I had 73 colonies, and wintered them on the summer stands with a loss of only two. They had no protection when it was 35° below zero. Last fall I had 72 colonies, but there was a cider mill within 300 yards of my bees, in which they made cider for three months. Thousands of the bees were killed every day, which weakened them, and the cider they carried in killed them all. I put 50 colonies in a good cellar, and left 22 on the summer stands. Those I put in the cellar lived the longest, and all had plenty of honey in the spring. I bought more bees, and now have 52 colonies in good condition.

I like to read the experience of other bee-keepers. We do not all work alike, and never will; but all want to get the best results. I like the Langstroth hive, or any hive that has plenty of room for surplus honey. I have gotten up a double-walled hive this fall which takes the Langstroth frame; the inside of the hive folds up half way, and I take the five frames having the most honey and hang them over the other five that the bees cluster on. The bees go in the hive at the bottom. The hive stands 18 inches from the ground. It has a drop-leaf alighting-board on the underside of the hive, allowing the bees a dry place on which to alight.

Delaware, ⊙ O., Nov. 7, 1885.

For the American Bee Journal.

Robbing—Large Honey-Yields.

C. W. DAYTON, (116).

From page 504 it may be understood that 100 colonies of bees were wintered in a cellar containing 550 cubic feet of space, and that all chances for the change of air were nearly cut off. With that number of colonies in a cellar of that capacity, and with 150 days' confinement, the bees of all the colonies seemed to have become of nearly the same scent. After placing the colonies on the summer stands, and having passed around to ascertain their condition as to the amount of stores, I began feeding honey to a few colonies by placing it in combs behind the division-boards. Finding that the bees removed the honey readily, I continued to supply it for several days.

One day, while examining one of the best of these colonies, I was much surprised to find it containing a large amount of brood, and apparently in a very prosperous condition, the brood-chamber being entirely destitute of honey. Again I fed the colony 5 pounds of honey in a day, and in the evening no honey remained in its brood-chamber. During the day there had continued a steady and moderate number of bees flying from the hive, but there had been none of the usual indications of robbery. Upon examination I found that several colonies had been quietly and slowly robbed of their stores, while several unfed colonies began to whiten and bulge their combs with honey.

For the robbers to gain access to the honey, they were obliged to pass into the hive through an entrance ⅜ by 1 inch, and (the entrances to my hives being at the side of the combs) travel through the brood-chamber and enter the feed apartment through a ½-inch hole which is bored in the centre of the division-board. From this it may be seen that the robbers must not have been considered very objectionable to have secured the honey by so hazardous a route through the brood-chambers. How easily might those colonies have been starved so as to have destroyed their brood, and consequently turned out to be unprofitable for this season. The robbing was stopped by returning to the cellar for a few days the colonies which were being robbed.

I find no use for entrance-blocks or division-boards in my apiary, and I have never known of robbing except in the way described above.

I would congratulate Mr. Wm. Malone on his "big" honey-yield as reported on page 619. From past experience he should have allowed the bees more honey for winter than from 1 to 6 pounds per colony, as he did those of which he reported on page 717 of the BEE JOURNAL for 1884. If he allows each colony 25 pounds of honey, the requisite amount for winter, perhaps his yield will not seem so large for this poor season. There is a vast difference between the amount of honey I extract and the amount which I sell. The taking and reporting of all the honey gathered, and then feeding syrup for winter stores, sometimes figures largely in the big reports, I suspect.

Bradford, δ Iowa.

For the American Bee Journal.

Bee-Enclosure—Queenless Colony.

L. C. ROOT.

The following questions were sent me by the BEE JOURNAL, with the request for answers to them:

On page 618 Mr. L. C. Root describes a tight enclosure for a bee-yard; will be please state the height of the fence and the distance from the hives? Also, I would like to know the best way to tell when a colony is queenless.—T. J. Tiffany, Brooklyn, δ Pa.

In reply I would say that the fence around my yard is 8 feet high, and close to the rear row of hives. If the fence is in front of the hives it should be several feet from the front row. If the location is in a very bleak place, I would have it higher. It should be made of matched boards, or battened to make it tight.

If a queen is suddenly destroyed in a hive, or removed from it, the bees may be noticed running about on the front of the hive and entrance-board as if in search of the lost queen. If the hive has been long queenless, it may be often detected by the bees becoming very cross. While there are outward indications, the only sure way of ascertaining is to open the hive and examine it. If queen-cells are found it is an indication that they are queenless, or that they are preparing to swarm or to supersede their queen, depending of course somewhat upon the season in which the examination is made.

If no eggs are found in the combs during the season when honey is being gathered, it is evidence that the colony is either queenless or has a virgin queen not yet laying. If the latter, a cell may usually be found from which she has hatched.

If but few eggs are found, or if brood is sealed over, the capping of which extends out beyond the surface of the worker comb, it is evidence that the colony has a drone-laying queen, a spent queen, or a laying worker.

During the season when honey is not being gathered, and the queen is not laying, there is no way to tell the absence of a queen to a certainty. An expert would satisfy himself to a reasonable degree by making a thorough effort to find the queen.

Mohawk, δ N. Y.

Youth's Companion.

The Honey-Ants.

The honey-ants are found from southern Mexico as far north as Colorado, and are easily recognized by the tall, mound-like structures or nests that they erect.

They are like the owl, almost entirely nocturnal, carrying on their out-door work at night, although their domestic duties underground are probably not neglected during the day. As soon as the darkness comes on, they sally out of their subterranean cities, and wander about, climbing bushes and trees in search of the food of their choice, which, curiously enough, is honey.

This will occur to you as an exceptional case among ants, as they generally, perhaps, as a rule, feed upon material that can be stored up; but here where the food is liquid you would assume that it could not be laid by for a rainy day, so to speak, for the simple reason that the ants have no tanks, flasks or bottles to hold the supply, nor the ingenuity to make them. Let us not say, however, that they have not sufficient intelligence to find a substitute, as they certainly have.

If we examine one of these ants, we shall find that the abdomen, or rear larger portion is protected by ten plates or bands that are movable, and as they are connected or underlaid by a very delicate membrane almost like rubber, they can be stretched apart to a wonderful degree, allowing the abdomen to assume the appearance of a tiny balloon four or five times its normal size. The ants also have a crop that is capable of great distension, and governed by sets of powerful muscles; in other respects they resemble ordinary ants.

Now by some arrangement, whether by agreement taking their turn, or by force, is not known, certain ants are selected by the others as living bottles; in other words, they are obliged to receive the supply brought in by the rest, and retain it. When the foraging ants return, they have their crops filled with honey, and proceed directly to the bottles.

Placing their mouths in contact with that of the unfortunate living receptacle, by contraction of the muscles mentioned, the contents of the crop are forced out and into the bottle. Ant after ant unloads in this way, until the elasticity of the recipient is tested to the utmost, and it can receive or hold no more.

The insect is then absolutely helpless. The crop and abdomen have expanded until it resembles an amber-hued sac, as we have seen, the size of a currant, the head and limbs having almost disappeared, hanging upon the side like a stem, while the other organs within the little creature are so pressed out of shape that it is with the greatest difficulty they are traced.

Loaded down in this way, and surfeited with sweets, the bottles are naturally powerless, and that this is appreciated by the others is evident from an examination of their nests, when it will be found that the honey-bearers are given a separate room, and there tended with the greatest care. They are, perhaps, placed there before being filled, or carried in later; but in any case they are found together in a separate apartment, hanging from the roof, to which they cling with their limbs, and appearing like ripe fruit suspended from invisible vines.

This, then, is the pantry or storeroom of the honey-ants, and here is kept what corresponds to the winter store of other animals. When the other ants are hungry they proceed to this room and lick off the drops of honey that by muscular contraction are forced out by the patient and never hungry living bottle.

The nests of the honey-ant are eagerly sought after by the native Mexicans, and the store-houses pillaged of the bottles that are served as delicacies by them.

For the American Bee Journal.

"Beaten Tracks" in Wintering.

J. E. POND, JR.

Mrs. Mahala B. Chaddock, on page 682, asks, while referring to my answer to Query, No. 128, "Which beaten track shall we follow in wintering?" Premising that by the term "beaten track" is meant one that has been used for a long time, I will answer, do not follow either of the unsuccessful methods of the prominent apiarists mentioned. For a number of years past they, by their reports, have shown that bees do not winter well with them; in fact we are led to believe that they lose more than they save.

It is true that Mr. Heddon now claims most positively that he can winter bees without loss, but I prefer to wait awhile and see the results before trusting too much to new theories. I have followed one track that has been "beaten" for 19 years.

I have not lost a single full colony, except when experimenting. I have given my method several times; it may be no better, or not as safe as others, but it works well with me, and I propose to keep in the old ruts for a while longer.

I would advise Mrs. Chaddock to use sound judgment, and follow the methods of those who are successful as a rule. By so doing she will find the "old beaten track," and when she does find it, she should stick to it, rather than to follow any "blind leaders of the blind."

Foxboro, Mass.

For the American Bee Journal.

A Bee-Keepers' Reference Book.

JOSHUA BULL.

Much of the matter contained in the bee-papers appears out of season, and may be fogotten before circumstances will allow the reader to make practical use of the information which has been gained. To obviate this difficulty I keep a reference book, which when examined refers to such articles as I have marked for further consideration at the proper time when they will be useful. I think that no argument is necessary to convince every one of the advantages of such a course.

I have kept such a reference book ever since I commenced to take a bee-paper, but was not aware that Mr. G. M. Doolittle was practicing a similar plan until his article on the subject appeared in the BEE JOURNAL for 1883, page 92. His method differs somewhat from mine, and I will here describe my method which classifies each subject by itself, irrespective of the seasons, for there are some things which are not confined to one particular season, and then there are other subjects which are of interest, and in season, at any time of the year. I will now endeavor to explain my way of keeping a reference book, which is as follows:

I procured a pocket memorandum-book, 6½x4 inches, containing about 100 pages, neatly and firmly bound. The first twelve pages of this are devoted to the alphabetical index, allowing half of one page to each letter of the alphabet, and in this index is written the titles or appropriate headings of the subjects referred to, each entry being made in the space alloted to the letter with which the title begins; and in connection with the entry is given the number of the page in the body of the book, at the top of which is written the same title or heading that is found in the index. All the articles treating upon this subject, which I wish to refer to again, are indicated on this page without re-writing the title of such article, but simply by giving the the name of the paper, the year in which it was printed, and the page on which the article may be found.

The following is an example: Suppose I want to read up a little about introducing queens: I take my reference book and open the index at the letter Q; here I find written "Queen introducing, page 34." I turn to page 34, and at the top of this page is written "Queen introducing," the same as is written in the index. Below is jotted "A. B. J., 1884, page 456." Then I take the AMERICAN BEE JOURNAL for 1884, and turn to page 456, and I find the article referred to.

In order to avail ourselves of the advantages of a reference book, we must, of course, preserve all our bee-papers and keep them in shape for ready and easy reference. The best way to do this is to procure a binder and insert them as fast as received.

I take four bee-papers, and when a fresh paper arrives I cannot be satisfied until I have read all its contents, and if any new feature or principle appears therein of special interest or importance, and which I wish to incorporate into my system of practice, or experiment with in any way, I make an entry in the reference book so that I can in a moment turn to it at any time. It may be only one paragraph, or perhaps a single sentence that contains all that I may feel particularly interested in, and when such is the case, the words embodying the idea are parenthetically marked with pencil or ink, and the letters A X are made on the margin of the paper, a similar mark being made in connection with the entry in the reference book, so that I can know at a glance just which part I am most interested in.

The above is my way of utilizing bee-papers, and if I have succeeded in making it clearly understood so that it will be the means of suggesting some useful thought to any one, I shall feel amply repaid for having described it.

Seymour, Wis.

Manitoban.

Bee-Keeping in Manitoba.

C. F. BRIDGMAN.

To many it seems a matter of some surprise that bees do actually live in Manitoba. They not only live but thrive. It has been thoroughly proved that they are a source of profit to those who take enough interest to give them the proper study and attention.

When it is said that bees are profitable here, it means more for our Province than one would naturally understand without further explanation. We have little else as yet than the natural flora of the country. This is not because more is not possible, but because this is a new country, and farmers have not practiced "mixing farming" to the extent they will in the near future. Farming in a very few years, when the country is more thickly settled and new wants created, will be carried on very differently to what it is to-day. In variety of crops it will be more similar to the Eastern Provinces. With this change comes a "boom" for the bee-keeper, for generally, in northern climes, at least half of the honey supply is taken from the field and garden, and bee-keeping was not profitable "down East" until made so by artificial bee-pasturage. With us it is profitable now, and every additional honey source will be clear profit.

To appease the epicurean appetites—which are not below the average of our cities and towns, we have a present and growing honey market superior to any in the Dominion—and south of us, too, for that matter—with such a good prospect of continuance that we need not worry about any serious decline in prices in even the distant future.

The wintering problem appears to be the sticking point with a good many—especially those not conversant with modern apiculture. This business has become a science, and wintering bees has received not an inferior portion of the attention given to overcome the difficulties attending a northern climate. Extreme winters have ceased to be so disastrous to bees since repositories under ground have been proved to be successful in carrying them through. The length of the winter would appear, then, to be the insurmountable barrier to our success, as it cannot be shortened—but even this is obviated. Bees have remained a longer time in these underground repositories in Ontario and Quebec than it is necessary for them to be confined here. Hence we can, with proper preparation, cheat old Boreas of his due. As conclusive evidence: bees have been kept successfully in Manitoba for years by a few. The fact has been "kept under a bushel," but in the future "a bushel" cannot contain it.

Bird's Hill, Manitoba.

Read at the Wabash Co., Ind., Convention.

Preparing Bees for Winter.

HENRY CRIPE.

Preparations for successful wintering of bees should be commenced by Oct. 1. As soon as the honey season is over, all surplus receptacles should be removed, and an examination made as to the honey intended for winter stores; if not sufficient honey is in the hive, feeding should be begun at once, and only the best coffee A sugar should be used. It should be made into syrup the thickness of well ripened honey.

I wish here to mention the "contraction method" which is so much agitated at present, and which I intend to try as an experiment the coming winter. I use contractors made out of wide frames. I take ½-inch stuff and tack on one side of a wide frame which makes a good contractor. I use one of these on each side of the brood-chamber, which leaves 7½ inches space to be filled with 5 brood-frames. In filling this out I take such frames that have the most honey in them, so as to lessen the feeding.

Now I am ready for feeding, which should be done at once, and enough should be fed to have at least 20 pounds of winter stores in each hive.

Some advocate giving empty combs and feeding all sugar syrup for winter stores, but I think that good clover honey is almost as good. Should the hives contain much cider or "bug-juice," I should remove it and give the colony sugar syrup instead.

Having finished the feeding, which should be done by the middle of October, I now proceed to pack the bees. The coming winter I intend to experiment with three different ways of wintering bees, viz: with chaff packing, buried in a clamp, and cellar wintering. I have been making these experiments for the past two winters, and the coming winter I intend to decide the question.

For chaff packing I use an outer box about 5 or 6 inches larger than the hive, placing it over the hive and making an entrance through the box so the bees can get out for a flight any time during the winter. I fill the space with chaff, fine straw, or what I think just as good—sawdust, and a good chaff-cushion is put on top of the brood-frames.

For cellar wintering I leave the colonies on the summer stands until cold weather has begun, then I carry them into the cellar and remove the hive-covers. I should have stated that I also remove the enameled cloth which I use in summer, and replace it with some porous material, such as will let moisture pass through; I use coffee sacking. This is done just before feeding is commenced. I leave them undisturbed until the weather becomes warm enough for a cleansing flight, when I place them out-doors; but I return them before they become chilled.

For the clamp I prepare the same as for cellar wintering, and leave the bees out until the weather is cold, when I put them in the clamp, removing the hive-covers. I cover all over with dry straw, and next with soil to a depth of 6 or 8 inches. With this last method I have had much the best success for the past two years.

If either of the above methods is closely followed, the bee-keeper need not worry when we have zero weather.

North Manchester,♂ Ind.

For the American Bee Journal.

Small Hives vs. Large Hives.

C. P. DADANT.

Mr. Heddon, page 693, and Mr. Dayton, on page 698, say that location has something to do with the desirable size of hives. Mr. Dayton suggests very correctly that if the honey crop lasts only twenty days, there is no need of having any larger hive than the queen can well fill with brood between the winter and the few days previous to the honey crop. He states also that bees in the North are weakened more by winter; that spring begins later there than here, and that the queens have less time to breed. But does the honey crop through the Northern States last only 15 or 20 days, as it does at times in his location? I have had no experience north of this location, but I could name bee-keepers who have reported an almost uninterrupted flow of honey from clover, basswood, and other flowers during the whole summer in the centre of Wisconsin. In this case the queen would have a chance to lay to her utmost capacity, so as to make her bees useful.

Another fact which Mr. D. seems to overlook is, that a large hive containing more bees, more brood and more honey in the good season, also contains more bees at all times, and is constantly a larger colony in the full sense of the word, and therefore winters better, and breeds earlier in the spring.

Upon investigation I find that I did unintentionally misquote Mr. Heddon in saying that the strongest colonies were more liable to diarrhea than average colonies; for which I apologize. But if he and the reader will read what he said about it on page 630, it will be found that he conveys the idea that the strongest colonies are objectionable because they suffer more from diarrhea. On this very few will agree with him. We cannot accept Mr. Hosmer as authority, as his theory was a complete failure in practice.

Mr. Heddon speaks again of economy, and yet he has not disproved my statement showing that 90 cents in all, or about 15 cents per year, interest included, will fully give the extra accommodation of one-third more room, to the most prolific queens. He asserts again that queens cost nothing. Supposing this to be correct, does he not see that this argument is against him? for if queens cost nothing, or next to nothing, we need not be particular about making them last, and we might as well take all the brood from them that they can afford when needed.

Our method gives us the advantage of being able to reduce the capacity of the hives, *a la* Heddon, if we choose, by the use of a division-board, and his does not give him the advantage of giving full scope to the queen, *a la* Dadant, in cases of very prolific queens, except by adding a second story, which then would make the hive too large. If we have but one queen out of ten with a large laying-capacity, her hive will pay for the extra expense on all the others, and we will have the additional satisfaction of knowing which is our most prolific queen, and of selecting her for queen-rearing purposes.

Mr. H. and others mention difference in climate as causing the difference in experience between us. If this is correct, it already gives the large hive the pre-eminence through about two-thirds of the United States.

As Mr. Heddon says, the question will be solved by the practical experience of the future. It is on such open and yet vital questions that our bee-papers are doing an immense amount of good, by bringing together the different views expressed from different parts of the country.

On this question, so many of our noted bee-men—Messrs. Cook, Heddon, Hutchinson, Doolittle and others—are on the opposite sides together, that we should not have dared to take the ground which we have taken had it not been for our past conclusive experience of profitable bee-keeping, coupled with the physiological facts of the laying-capacity of queens, which, to our minds, form the basis of the question.

Hamilton,⊸ Ills.

For the American Bee Journal.

Railroad Certificates for Convention.

H. D. CUTTING.

As many do not fully understand the use of the certificates to secure the benefits of reduced rates, I will try to explain their use.

It makes no difference whether you belong to the North American Bee-Keepers' Society, or any other society, or ever expect to, if you wish to go to Detroit, Mich., to attend the annual meeting of the several bee keepers' societies to be held at that place on Dec. 8, 9 and 10, you will simply write to W. Z. Hutchinson, Rogersville, Mich., asking for as many railroad certificates as you can use. Mr. H. will book your name and the number of certificates you want, and as soon as he obtains the certificates from the railroad companies, which will be about Dec. 1, he will mail them to you. You will fill out the blank, and when you buy your ticket have the railroad agent fill out his part. If you cannot buy a through ticket to Detroit, buy one for as far as you can, and when you procure a new ticket have the agent endorse on the face of the certificate that he sold you one full-rate ticket from that place to as far as you get your ticket. You may be obliged to get tickets at several places, but always have the agent certify that he sold you a full fare ticket.

When you arrive at Detroit, present your certificates to Mr. Hutchinson, and he will fill out the blank left for that purpose, certifying that you was in attendance at the above-mentioned meeting. Then, on presentation of your certificate properly filled out, you will be able to procure a return ticket by paying one-third the regular fare, thus saving to you two-thirds of the regular fare one way.

This is a great reduction, and will enable many to attend at Detroit that would feel that it would cost too much to go. Then with the reduced rates at the hotel it will make your expenses very low. Your committee is still at work trying to make it pleasant for you when you arrive in Detroit. We hope you will all come and make this meeting one long to be remembered by those present. A large sample room at the hotel has been placed at our disposal, where you can have every facility to show anything new or of interest to the Society.

Let every bee-keeper canvas his neighborhood and find how many will attend, then send to W. Z. Hutchinson for certificates as soon as possible, so that he will know how many to apply for.

Clinton,♀ Mich.

Exchange.

Do Bees Hear?—Experiments

BY SIR JOHN LUBBOCK.

Some honey was placed on a musical box on his lawn, and the box was kept going for a fortnight, during which time the bees regularly helped themselves to honey. The box and honey were then removed out of sight into the house; and, although placed near an open window, and only seven yards from the previous position, the bees failed to find the honey, although those brought to it in its new position afterwards found the way readily enough. He, however, declines to say that bees are incapable of hearing, and thinks it not impossible that insects may perceive higher notes than we can hear, and may even possess a sense, or perhaps sensations, of which we can form no idea; for although we have no special organs adapted to certain sensations, there is no reason why it should be the case with other animals, while the problematical organs possessed by some of the lower forms favor this suggestion. He is of the opinion that the sounds which bees hear may be not the low loud sounds, but the higher overtones at the verge of or beyond our range of hearing.

It is, however, remarkable that bees certainly do seem to hear on some occasions. The note with which the old queen threatens the royal brood as they come to maturity, and swarming time approaches, and so well known to apiarists under the name of "piping," can often be distinctly heard some distance from the hive, and is evidently intelligible to the young queens, for they respond in tones perfectly audible to the listener. Although bees will take no notice of a very loud noise, even quite close to the hive, it is, however, remarkable that the slightest tap on the hive itself, or any of its attachments, or even a heavy tread some distance off, immediately disturbs them.

Read at the Wabash Co., Ind., Convention.

Keeping Bees for Profit.

AARON SINGER.

Ever since America was discovered men have been led to follow some kind of employment in order to create wealth and provide for the necessaries of life. In the last century many new avocations have been developed which were heretofore dormant or unknown. Among them I may mention bee-keeping on scientific principles. Many persons in this country are engaged in this pursuit as a means of earning a livelihood, while others are engaged in it from other motives, such as pleasure, recreation, scientific research, etc.

With the latest developments in Natural History relative to the honey-bee, we have been enabled to bring the art of bee-keeping down to a system in management. We are enabled to realize three times the amount from a single colony that was heretofore obtained under the box-hive and "luck" system.

As one source of profit, we have comb honey, which is looked upon by many as "food fit for the gods." As to the manner of its production we have advanced wonderfully in the last decade. Many years ago comb honey was only secured by taking it in a large box on top of the "gum," or from the body of the hive after brimstoning the bees. In the latter case the comb would then contain honey, pollen, brood, etc.; but by the untiring energy of masters in the art, we have discovered the "how" to have honey stored in nice section-boxes without pollen or brood. This enables us to obtain more remunerative prices for the honey, as it is in a more desirable form.

My method of securing comb honey is as follows:

I use what is known as the Heddon plan, with slat honey-board and open-top sections which will allow tiering-up. This plan does away with all glass fixtures about the surplus arrangement. Some may object to this on the ground that one cannot see the progress of the bees without disturbing them by raising the hive-cover; but I have found that the bees will work better where the light is excluded than where it is admitted. I do not use separators, but I put foundation starters in all the sections before I put them on the hives, and I have secured very fair combs. When I remove the sections, after they are filled, I scrape off all propolis and put them in a crate ready for market.

To secure the greatest amount of comb honey from a single colony, I proceed thus: I put on the sections as early as the colony will permit. When warm weather comes, and the bees are hard at work, I find them, as a rule, storing honey in the sections. They will also store honey in the brood-chamber, and in that way diminish the capacity for brood-rearing. With an extractor I empty the frames of the brood chamber occasionally, as this has a tendency to keep down the swarming fever and increase the working-force of the colony.

An 8-frame Langstroth hive is about the right size for the best results in producing comb honey. As to the best kind of bees, I would say the Italians, every time. I have some blacks that are good honey-gatherers, but they will not stick to the combs in manipulating them, which is quite an important characteristic.

I have produced some extracted honey, and I find that it can be sold at a less price per pound and then bring as much or more per hive than comb honey; but our market demands comb honey even if it is a higher price per pound. To obtain the best prices we must have pure honey, and have it put up in a desirable shape. To be successful in selling our crop, we should get our honey to market in as neat and attractive a condition as possible.

In working about the apiary there are always more or less scraps of comb, etc., which should be saved. I have a box with a tight-fitting cover, into which I throw all the scraps, and after I have the box full I render it into wax. If we wish to make the bee-business profitable, we must learn to be very economical in every thing.

Bees may be kept and increased without regard to securing honey, and money be obtained by selling nothing but bees. To run an apiary solely for bees, I would practice making the increase by dividing the colonies. As to keeping bees for profit, this will be found true: He who wishes to make it a success must devote all his time and energy to the business; do the right things at the right time; have everything ready before it is needed; have "a place for everything, and everything in its place;" and above all, be not discouraged at failures, as they are lessons which bring lasting knowledge and awaken a desire to learn to avoid their recurrence. A thorough knowledge of every detail of management is very essential, and to obtain this it is expected that we read what the great masters have said upon the subject of apiculture. The reason for so many failures is a lack of information upon this science. In conclusion I would say with the poet—

"Keep pushing; 'tis wiser than sitting aside,
And dreaming, and sighing,and waiting the tide:
In life's rosy morning those only prevail,
Who daily march onward, and never say *fail*."

Wabash, ♁ Ind.

Baltimore List.

The Bees of South America.

C. H. LAKE.

In an old book we are told of a little black bee, found in the Island of Gaudaloup, which lives in hollow trees or the cavities of rocks by the seaside, and lays up honey in cells about the size and shape of pigeon eggs. These cells are black or deep violet color, and so joined together as to leave no space between them.

The following are mentioned by Lindley as indigenous to Brazil: "On an excursion toward upper Topogippa, and skirting the dreary woods which extend to the interior, I observed the trees more loaded with bees'-nests than even in the neighborhood of Port Lequro. They consist of a ponderous shell of clay, cemented similarly to the martin's nest, swelling from high trees about a foot thick, and forming an oval mass full two feet in diameter; when broken the wax is arranged as in our hives,and the honey abundant."

Capt. B. Hall found in South America the hive of a honey-bee very different from the Brazilian, but nearly allied to, if not the same, as that of Gaudaloup. "The hive we saw opened," says he, "was only partly filled, which enabled us to see the economy of the interior to more advantage. The honey is not contained in the elegant hexagonal cells of our hives, but in waxen bags not quite so large as an egg. These bags or bladders are hung around the sides of the hive and appear about half full, the quantity being probably just as great as the strength of the wax will bear without tearing. Those near the bottom being better supported are more filled than the upper ones. In the centre of the lower part of the hive we observe an irregular shaped mass of comb, furnished with cells like those of our bees, all containing young ones in such an advanced state that when we broke the comb and let them out, they flew merrily away."

Baltimore, Md.

The Future.

Weather During Next Winter.

PROF. C. C. BLAKE.

The weather in December will be quite cold and winter-like, with a number of severe winter storms, and a good deal of rain in the Southern States; while in the Northern States, and in Dakota and the Northwest, the precipitation will be much less, and all in the form of snow, though there will be a partial thaw the last of the month, during which there will be some rains in portions of the Northern States. While there will be some pleasant winter weather, yet taken as a whole it will be a cold, stormy month, though not so cold as some Decembers are. January, 1886, will be still colder, and all the precipitation of the month, except possibly the first few days of the month, will be in the form of snow, except in the far South, where it will be rain, but the precipitation for the month will be less than in December.

During the last days of January or the first days of February, 1886, there will be violent electric storms that will seriously interfere with working the telegraph lines, and at the same time there will be extensive auroras visible both in North America and Europe. I cannot tell exactly how far South these auroras will be visible, but I think they can be plainly seen as far South as St. Louis, Mo. These electric storms will continue for several days, and be quite intense, and, under the peculiar circumstances of their appearance, they will be the harbinger of the end of winter, for soon thereafter the cold weather will begin to moderate in the South, and by the middle of the month of February, extensive rains will commence in the Gulf and South Atlantic States, which will reach St. Louis, Mo., by about the 20th, and soon thereafter will extend over most of the United States and Canada, except perhaps the far Northwest, where winter will not break up before the end of the month. February will be a very stormy month, taken as a whole; and during the change from cold winter weather to rainy spring weather there will be a violent conflict in the elements, resulting in a heterogeneous mixture of rain, snow, sleet and hail, with the rain gradually advancing and gaining the mastery over the snow. These rains and melting snows during the latter part of February, will result in extensive floods, which will probably do the most damage in the following month of March.

I have not yet figured for the minute details, but, speaking generally, next "March will come in like a lamb," with vigorous growing weather and a very early spring.

As the weather for the balance of 1886 will be as remarkable as that just described, we will consider it at length in a subsequent issue of *The Future.*

The National Bee-Keepers' Union.

CONSTITUTION.

ARTICLE I.—This organization shall be known as the "National Bee-Keepers' Union," and shall meet annually, or as often as necessity may require.

ARTICLE II.—Its object shall be to protect the interests of bee-keepers, and to defend their rights.

ARTICLE III.—The officers of this Union shall consist of a President, five Vice-Presidents, and a General Manager (who shall also be the Secretary and Treasurer), whose duties shall be those usually performed by such officers. They shall be elected by ballot, and hold their several offices for one year or until their successors are elected and installed; blank ballots for this purpose to be mailed to every member by the General Manager.

ARTICLE IV.—The officers shall constitute an Advisory Board, which shall determine what action shall be taken by this Union, upon the application of any bee-keepers for defense, and cause such extra assessments to be made upon all the members as may become necessary for their defense.

ARTICLE V.—Any person may become a member by paying to the General Manager an Entrance Fee of ONE DOLLAR to the Defense Fund, and an annual fee of 25 cents, for which he shall receive a printed receipt making him a member of this Union, entitled to all its rights and benefits. The annual fee shall be due on the first day of July in each year, and MUST be paid within 30 days in order to retain membership in this Union.

ARTICLE VI.—Donations of any amount may be made at any time to the Defense Fund, in addition to the entrance and membership fees and the regular assessments made upon the members by the Advisory Board.

ARTICLE VII.—The Defense Fund shall be used for no other purpose than to defend and protect bee-keepers in their rights, after such cases are approved by the Advisory Board, and shall only be subjected to Drafts regularly made in writing by the Advisory Board.

ARTICLE VIII.—The annual fees paid by the members shall become a general fund, from which shall be paid the legitimate expenses of this Union, such as printing, postage, clerk-hire, etc.

ARTICLE IX.—Meetings of this Union shall be held at such times and places as shall be designated by the Advisory Board, or upon the written requisition of ten members.

ARTICLE X.—This constitution may be amended by a majority vote of all the members at any time.

LIST OF MEMBERS.

Addenbrnoke, W.,
Allen, Ransom,
Alley, Henry,
Anderson, J. Lee,
Anderson, Wm.,
Angell, C. S.,
Asp nwall, Jno.,
Babb, Enoch,
Bailey, W. G.,
Balowin, A. A.,
Baldwin, B. T.,
Baldwin, L. W.,
Ball, Miss J. M.
Barnes, Wm. M.,
Barrows, O. B.,
Baxter, E. J.,
Bean, C. M. & W. L.
Bernschein, Ernst,
Besse, H., M. D.,
Billings, L. P.
Billing, Peter
Bitzer, Wm.,
Blanchard, O. C.,
Bledsoe, H.,
Blount, C. N.,
Bohn, Gustav,
Bray, Moses,
Brickey, Peter,
Brown, A. J.,
Buchanan, J. W. & Bro,
Bucklew, J. A.,
Burrell, H. D.,
Burton, L.,

Camp, C. A.,
Camp, G. W.,
Carder, A.,
Chapmao, B.,
Chapman, J.,
Cheney, H. H.,
Christian, P. J.
Christie, Jno. H.,
Clarke, Rev. W. F.,
Clickenger, Earlle,
Connley, John T.,
Cook, Prof. A. J.,
Cripe, Henry,

Dadant, Chas.,
Dadant, C. P.,
Darby, M. E.,
Dayton, C. W.,
Dawson, L.,
Deadman, G. A.,
Decker, A. A.,
Decker, C. K.,
Demaree, G. W.,
Dibbern, C. H & Son,
Dickason, T. B.,
Didrickson, O.,
Dittmer, Gus,
Dodge, U. E.,
Doolittle, G. M.,
Dorr, Dr. H R.,
Downs, Robert,
Drane, E.,
Drew, Wm.,
Dunham, P.,
Dunn, John,

Englesfield, E. C.,
Eastwood, L.,
Edson, A. S.
Elwood, Sr., W. R.,
Falsoner, J.,
Feathers, Harvey,
Flanagan, E. T.,
England, P. J.,
Enke, Wm.,

Ferguson, S.,
Follett, Charles,
Forbes, W. E.,
France, E. & Son,
Freeborn, S. I.,
Fulton, W. K.,
Funk, H. W.,
Furness, Dwight,

Gander, A. M.,
Gibson, F. A.,
Goodrich, A. S.,
Green, Charles H.,
Greening, C. F.,
Greiner, G. C.,
Greiner, Friedemann,
Gresh, Abel,
Grimm, Christopher,
Griswold, Fred,

Harding, Benj.,
Harlens, J G.,
Harrison, S. H.,
Hart, F. M.,
Haskin, A. S., M. D.,
Hatch, C. A.,
Havens, Reuben,
Hayhurst, E. M.,
Hester, Mrs. J. N.,
Heddon, James,
Hensley, J. P.,
Hettel, M.,
Hill, A. G.,
Hills, Mrs. H.,
Hilton, George E.,
Hobler, Geo.,
Hogue, R. M.,
Hoke, Abe,
Hollingsworth, C. M.,
Howard, J. B.,
Hoyle, George H.,
Huse, Wm. H.,
Hutchinson, W. Z.,
Hyne, James M.,
Illinski, Dr. A. X.,

Isham, H. B.,
Jackson, Andrew,
Jardine, Jas.,
Jones, George W.,
Jones, Henry,
Jones, J. H.,

Killough, J. M.,
King, D. N.,
King, T. Frank,
Knickerbocker, G. H.,
Koeppen, August
Kruschke, H. O.,
Kyber, G. E. T.,

Lammey, John,
Langstroth, Rev. L. L.,
Lanning, John,
Lawton, B. W.
Leedom, C.,
Le Roy, J. W.,
Lindsly, L.
Ludkey, Charles,
Ludloff, K.,
Lyman, W. C.,
Lynch, Jno. C.,

Maddox, W. T.,
Mahin, Rev. M.
Mallory, S. H.,
Manum, A. E.,
Marden, Henry,
Murgrave, J. W.,
Marshall, J. W.,
Mason, Jas. B.,
Mattoon, Jas.,
McConnell, James,
McCormick, Emery,
McGee, Charles,
McLees, S.,
McNay, Frank,
McNeill, James,
Millard, D.,
Miller, B. J. & Co.,
Miller, Dr. C. C.,
Miller, Geo.,
Miller, Henry,
Mills, L. D.,
Minnich, F.,
Minor, N. L.,
Morse, William,
Muth, C. F.,
Muth-Rasmussen, Wm.,

Nelson, James A.,
Newman, Alfred H.,
Newman, S M.,
Newman, Thomas G.
Nipe, James,
Nutt, W. C.,

Ochsner, J. J.,
Osburn, A. W.,
Owens, J. J.,
Parker, D. G.,
Payn, W. N.,
Pennoyer, L. A.,
Perkins, Nelson,
Peters, Geo. B.,
Peters, Jno.,
Phelps, N. T.,
Pond, Jr., J. E.,
Powell, E. W.,
Pray, G. L.,

Rainey, Jarvis,
Raisch, H.,
Reed, L.,
Reed, L. G.,
Rey, John,
Reppert, F.,
Reynolds, M. G.,
Richards, Wm.,
Roberts, Jesse H.,
Rogers, Jno.,
Root, A. I.,
Rose, C. H.,
Rowe, David,
Roye, Burr,
Salisbury, S. W.,
Schaper, E. F.,
Scheuring, Paul,
Seabright, L. C.,
Sears, J. W.,
Secor, Eugene,
Segars, M.,
Shapley, D. L.,
Shearman, J. O.,
Shepard, Horace,
Shirley, W. H.,
Shuck, J. M.,
Slade, W. D.,
Smith, David,
Smith, George,
Smith, Mrs. Martha,
Snell, F. A.,
Spady, Jno.,
Spencer, M. L.,
Stearns, J. R.,
Stephenson, H. W.,
Stephens, W. B.,
Stewart, W. H.,
Stocker, Wm. S.
Stolley, Wm.,
Stordock, C. H.,
Storer, E. M.,
Sumner, T. B.,
Sweet, C. L.,

Talbert, M.,
Taylor, George,
Taylor, R. L.
Thatcher, Will.,
Theilmann, C.,
Thompson, Geo. M.,
Tinker, Dr. G. L.,
Tongue, L. N.,
Travis, F. W.,
Travis, I. A.,
Treadwell, W. B.,
Trimberger, John,
Turner, P. E.,
Twining, M. J.,
Tyner, Alonzo,
Vanhouten, C. W.,
Valentine, J. M.
Viallon, P. L.,
Walton, Col. R.,
Webster, H. S.,
Weeks, C.,
Wendt, Henry,
West, Chas.,
Whitney, W. V.,
Wicherts, A.,
Wilkins, Miss Lucy A.
Wilson, W. W.
Wolcott, Wm. C.,
Wright, W. D.,
Wurth, Dan.,
Zwiener H. L.

Local Convention Directory.

1885. *Time and place of Meeting.*

Dec. 8—10.—Michigan State, at Detroit, Mich.
H. D. Cutting, Sec., Clinton, Mich.

Dec. 8—10.—North American, at Detroit, Mich.
W. Z. Hutchinson, Sec., Rogersville, Mich.

Dec. 8-10.—Northwestern, at Detroit, Mich,
W. Z. Hutchinson, Sec., Rogersville, Mich.

Dec. 11.—Northeastern Kan., at Hiawatha, Kan.
L. C. Clark, Sec., Granada, Kan.

1886.
Apr. 27.—Des Moines County, at Burlington, Iowa.
Jno. Nau, Sec., Middletown, Iowa.

☞ In order to have this table complete, Secretaries are requested to forward full particulars of time and place of future meetings.—Ed.

SELECTIONS FROM
OUR LETTER BOX

The Season—Packing Bees.—R. A. Rosser, Nelsonville,⟜ O., on Nov. 9, 1885, writes:

Last winter I lost 17 colonies of bees with precisely the same care that I gave them for three winters previous, the main cause being too long a cold spell at a time. Several colonies starved with at least 30 pounds of nice white honey in each of their hives. They ate all the honey in the frames upon which they were clustered, and were not able to move to the next frame. By April I had only 25 colonies out of 42 in the previous fall, and all of the 25 were badly affected with the diarrhea. As soon as the weather was warm enough I began to feed them. I fed 300 pounds of coffee A sugar, and by May 10 I had them as strong as they were in the fall, but owing to the many cold days we had in May and June, they were hindered in swarming. I did not have a swarm until June 12, and from that time until July 17 I had 13 in all. We have had frost in every month this year, excepting July and August. I obtained about 300 pounds of comb honey this season. I have packed my bees for a cold winter this time, and they all have plenty of good honey to winter on.

My Report—A Suggestion.—J. F. McMillan, Healy,⊙ Ills., on Nov. 5, 1885, writes:

In the spring of 1884 I had 14 colonies of bees in box-hives, after "spring dwindling" was over. I put the swarms into standard Langstroth hives and secured about 400 pounds of honey in sections in the fall. I wintered them in the cellar nicely, and on June 1, 1885, I sold 8 colonies for $4 each (in box-hives), and afterward I sold 8 prime-swarms for $2.50 each, without hives. On July 3 I extracted 70 pounds of fruit-bloom honey, and on July 17, 155 pounds of mostly basswood honey. I also secured 200 pounds of honey in sections, and the most of it was basswood. Many of the sections were partly filled when the flow ceased. I have about 70 pounds in the sections that I am going to extract, as the bees carried part of the honey below. My neighbors that have worked theirs on the old style, did not get a pound of surplus honey, and so I sold them some. Some of them brimstoned their bees to get some honey. My bees are in fair condition for the winter, but they would be in better condition if their honey was all sealed. Some of the late swarms I will feed. Mr. G. M. Doolittle, on page 680, mentions a plan by which to know the annual yield of honey in the United States. I would suggest that the National Bee-Keepers' Society, which meets at Detroit, Mich., next month, decide what is the average yield per colony, spring count, of fruit bloom honey, the average of white clover and basswood, and the average yield of fall honey. Some will not report, and to help those that will in their locality, would be for them to write to the Secretary of the Society, Mr. W. Z. Hutchinson, giving the amount of honey, whether it be good, below or above the average, and the Secretary then to give the decision the same as the Signal Service of the United States is carried on.

Bees and Fruit.—N. L. Minor, a deaf-mute bee-keeper of Clarksville,♂ Mo., on Oct. 22, 1885, says:

Some ignorant people claim that bees injure their fruit, but really it is the birds that first puncture grapes, peaches, etc., and then the bees gather the juice. Such birds as woodpeckers, blue-jays, etc., are the most troublesome. My apiary is within 300 or 400 yards of a vineyard, and the owner is aware that it is birds and not bees that injure his grapes. The fruit-growers in this locality do not bother their neighbor bee-keepers as they do in some sections of the country. I have obtained only 60 pounds of extracted honey and 40 pounds of beeswax from my colonies. I extracted the honey from 2 or 3 frames in each hive.

Selling Honey—Chloroformed Bees.—D. R. Rosebrough, Casey,⊸ Ills., on Nov. 9, 1885, writes:

The past summer I took a load of honey to a town some 20 miles away, and sold it within 50 minutes after arriving. Last month I took another load to the same place, but I found several hundred pounds of honey in every store; however, I managed to sell a part of my honey for 15 cents per pound, and the balance I kept at a friend's place of business for a day or two, when I sold it also at 15 cents per pound. Others, who had sold their honey before I got there, obtained only 13 cents per pound. Hereafter I shall sell my honey in this way, viz: take it to market and remain with it until it is sold. A neighbor was going to brimstone his colony of black bees for the honey, when I told him to let me have the bees, as I wanted to try chloroform on them. I procured a quarter of an ounce of it and poured it into a tin-plate. I then placed a wire screen over the chloroform and put the box-hive over it. In 25 minutes I removed the hive and found the bees lying in a pile apparently dead; but as soon as the sunlight touched them they began to revive, and in 15 minutes they commenced to fly. Every bee looked as if it had been drowned. The queen was found in the hive as dry and lively as if nothing had happened.

Grasshoppers and Bees.—R. M. Osborn, Kane,♀ Ills., on Nov. 5, 1885, writes:

The honey season of 1885 has passed and the honey harvest, like the wheat harvest of 1885, will be long remembered in this vicinity. The bloom was abundant, and the bees took to the nectar, but now all is over, and the honey crop here is a failure. Frequent cold rains and swarms of grasshoppers did the work of destruction to the nectar. The grasshoppers took possession of all the main honey-plants, except sweet clover and figwort. I have never seen any grasshoppers on these latter plants. My 54 colonies increased to 66, and produced 908 pounds of comb honey, 426 pounds of extracted, and 28 pounds of wax; leaving about 1,885 pounds for the 66 colonies to winter on. They are now all in splendid condition. On Oct. 20 I prepared all my bees for winter on the summer stands, on the same plan that I have prepared them for eight years past without the loss of a single colony. We have not had very much frost yet, but too much rain. I had one acre of sweet clover; it grew about 7 feet high. My buckwheat did well for a few days, but the grasshoppers drove the bees off and took possession of it. I live in hopes for better times in 1886.

My Experience with Bees.—R. E. Scotten, Edenville,⊙ Iowa, on Nov. 5, 1885, writes:

Last year I began with 17 colonies, and the spring being cold and backward, I lost 2 of them before they were supplied with honey from the flowers. The remaining 15 colonies increased to 30, by dividing them, but stored no surplus honey, and few frames were filled for winter, so I had to feed the bees for winter stores. I put them into a new cellar, a half mile or more from home. The house not being occupied, and no fire being in the building all winter, it froze, breaking fruit-cans, and the frost collected overhead in the cellar, thus making it wet and damp when it thawed. I put the bees out for a flight on March 7, after a confinement of 110 days, and I found 14 dead colonies. I returned them to the cellar, intending to put them out in a few days, but the weather continuing cold I left them for about 24 days, and when I did put them out 5 more colonies were dead. The bees and combs were thoroughly wet, and the combs were also moldy. On April 15 I moved home what colonies were alive—only 6—and 2 more of these perished. One of the remaining 4 was in fair condition, and 3 were so weak that I put them all into one hive. I put the top-story on and filled it with frames partly filled with honey for them to live on, thinking that they would carry the honey below; but they began work above and reared brood there, and this is the only colony that gave me any surplus honey. The other colony I divided, so now I have 3. I have known some to keep bees in an upper room in a house, and I thought of keeping my bees on the second floor through the winter. Will it answer?

[For reply to this query, see page 628.—Ed.]

Introducing Queens. — G. Bacon, Bucyrus,+○ Ohio, on Nov. 6, 1885, asks the following question:

I would like to know how to introduce a queen successfully to a colony that has had its own queen removed over a week. I had some black queens removed and Italians caged and introduced, but the bees "pitch right on" to the queen though they are queenless. I would like to have some infallible method of introducing without the bees killing the queens, and passing through queenless. I have been feeding these colonies to make them more amiable, but still they persist.

[I believe we have as yet no "infallible" method for safely introducing queens. It is now pretty late for all kinds of bee-manipulations in our latitude. Caging the new queen for 48 hours (and then longer if the bees act belligerent toward her), at the same time feeding the colony, is perhaps as good a plan as any. I think you liberated your queens before the bees had accepted them. — James Heddon.]

Great Loss by Fire, etc.—Mrs. Emma Hulett, South Dayton,♀ N. Y., on Nov. 11, 1885, writes:

After removing the bees from the cellar last spring, and doubling up some of them, and some having the diarrhea and also "spring dwindling," I began the season with 30 strong and healthy colonies. These I increased to 68, and obtained 1,500 pounds of surplus honey. There was scarcely any clover honey in this locality, but basswood yielded a good supply of honey of excellent quality. My bees never were in better condition for winter; but it seems that their and our industry was to avail nothing, for on Sept. 22 our house and nearly all its contents, and the barn and its contents, were burned. Having a large house all the bee-implements were stored on the second floor, and also more than 1,000 pounds of honey being there was destroyed. The bees were near the south side of the house, in an orchard, and as the wind was from the northwest, thus carrying the fire and smoke on them, their escape seemed almost miraculous. I have been wintering my bees in the cellar under the house, but now we have built a bee-cellar with a 20-inch sawdust wall, on top of the ground, with grout foundation and sub-earth ventilation. Everything is in readiness for winter. At this time the bees are having a nice flight.

Blue-Vervain. — Rev. L. Johnson, Walton,♂ Ky., on Nov. 10, 1885, writes:

I send stamens and leaves of a plant that I find growing here, which is the finest honey-producing plant I have yet seen. It is perennial, grows about two feet high, has deep blue flowers, begins blooming about June 1, and continues until frost. What is it, and what is its value for general cultivation?

[This is blue-vervain, or verbena hostata. I mention and commend it highly as a bee-plant, in my Manual. I hardly think it would pay to cultivate it, further than in waste places, as it has no value except for the nectar it secretes; and it too closely resemble the nettle to be prized very much as an ornamental plant. A white species is more beautiful, and just as attractive to the bees.—A. J. Cook.]

Good Honey Crop.—R. R. Stokesberry, Clinton,+○ Ind., on Nov. 5, 1885, writes:

I commenced last spring with 15 colonies, 6 of them being so weak that they did not do much; I increased them to 28 colonies by natural swarming, and secured 1,400 pounds of comb honey, and 100 pounds of extracted. This is the best I have ever done, but I had empty combs to fill all the hives for new swarms and to put into the surplus boxes. Last year, from 32 colonies and their increase, I obtained only 300 pounds of honey. My location is a poor one, generally, and as I expect to keep bees as long as I live, I would like to find a better one. I would like to move to Missouri, Arkansas, Texas, Tennessee, Northern Mississippi or Alabama, if I knew any good honey-producing locality.

Excellent Report,—3—H. L. Wells, (16—51), Defiance,-○ O., on Nov. 12, 1885, says:

Last fall I placed 18 colonies in winter quarters, and had 17 left last spring. I sold one, and so began the season with 16. I increased them to 51 colonies, lost 3 swarms, and obtained 1,650 pounds of extracted honey, and 375 pounds of comb honey, making over 125 pounds per colony, spring count. One of my best colonies gained 14 pounds per day for about 5 days while basswood was in bloom. Can any one beat this in Northern Ohio? I winter my bees on the summer stands, using hives of my own construction.

☞ In the answer to Mr. Wadham, on page 716 of last week's Journal, a mistake was made by the printer, reversing the meaning. The last two lines should read: "There is reason to think that they are not queenless."

Honey and Beeswax Market.

Office of the American Bee Journal,
Monday, 10 a. m., Nov. 16, 1885.

The following are the latest quotations for honey and beeswax received up to this hour:

CHICAGO.

HONEY.—It is in good demand, and for the best grades of white comb honey 15@16c. is obtained. Off-colored and dark find very slow sale. Extracted is steady at 5@8c. per lb.

BEESWAX.—24@25c. Offerings of honey and wax are light.

R. A. BURNETT. 161 South Water St.

BOSTON.

HONEY.—It is selling very well but prices are very low, and we are often obliged to shade our prices in order to make rates. We quote comb honey in 1-lb. sections at 14@16c., and 2-lb. sections at 12@14c. Extracted, 6@8c.

BEESWAX.—30 cts. per lb.

Blake & Ripley, 57 Chatham Street.

NEW YORK.

HONEY.—The market for comb honey is quite active, and the demand nearly equal to the supply. Prices are gradually shading, owing to the fact of many producers selling their entire crop in this city at very low prices, thereby enabling the purchasers to sell low and realize a handsome profit. Large lots have been sold here at 9@10c. for fancy goods. In consequence of no honey coming in from the West, we can see no reason why good prices should not be obtained, except as above stated. Present quotations are: Fancy white 1-lb. sections, 14@15c.; the same in 2-lb. sections, 11½@12½c.; fancy buckwheat honey in 1-lb. sections, 11@12c.; in 2-lbs., 9@10c. Off grades 1 to 2c. less.

BEESWAX—Prime yellow, 25@28c.

McCaul & Hildreth Bros., 34 Hudson St.

CINCINNATI.

HONEY.—There is a very slow demand from manufacturers, for extracted honey, with a large supply on the market, while the demand is very good for clover honey in square glass jars. Prices for all qualities are low and range from 4@8c. a lb. Supply and demand is fair for choice comb honey in small sections, which brings 12@15c. per lb.

BEESWAX.—Good yellow is in good demand, and arrivals are fair, at 20@22c. per lb.

C. F. MUTH. Freeman & Central Ave.

SAN FRANCISCO.

HONEY.—Arrivals are quite light, with a probability of so continuing through the balance of the season. There is some inquiry for best qualities, with a firm market for the same. Quotations are as follows: White to extra white comb, 9@11c.; dark to good, 5@8c. Extracted, white liquid, 5@5½ cts.; light amber colored, 4½@5c.; amber and candied, 4¼c.

BEESWAX.—Quotable at 23@25c., wholesale.

O. B. Smith & Co., 423 Front Street.

CLEVELAND.

HONEY.—The market since our last report has improved very much and there is a good opening for very choice white 1-lb. sections, for which 14@15c. is obtained. Our stock of new is very light at present but of the old we have a good supply which we sell at 10@13c. for white 1-lb. sections. Extracted honey is slow at 6@7c. for best white clover and basswood.

BEESWAX.—Very scarce at 20@22c.

A. C. Kendel, 115 Ontario Street.

KANSAS CITY.

HONEY.—The demand for all kinds of honey is good and prices are much improved. Choice 1-lb. sections bring 16@17c. on arrival, and demand is in excess of receipts. It would be better to ship now while the weather will admit, as it will come in good shape and bring good prices. Two-pound sections are sold now nearly altogether from California stock, as it is cheaper than any other kind: 12½@14c. being the ruling rates for it. Extracted is in fair demand at 4@5c. for dark, and 6@8c. for light.

BEESWAX.—It is a little firmer at 23c. for good average.

Clemons, Cloon & Co., cor. 4th & Walnut.

Bee-Keepers' Badges at Fairs.

We have some **ELEGANT RIBBON BADGES,** having a rosette and gold Bee, for bee-keepers' use at Fairs, Conventions, etc. Price 50 cents each, by mail, postpaid.

THOMAS G. NEWMAN & SON,
923 & 925 West Madison St., CHICAGO, ILL.

WEEKLY EDITION
OF THE
AMERICAN
ESTABLISHED IN 1861
OLDEST BEE PAPER IN AMERICA
BEE JOURNAL
PUBLISHED BY
THOMAS G. NEWMAN & SON,
PROPRIETORS,
923 & 925 WEST MADISON ST., CHICAGO, ILL.
Weekly, $2 a year; Monthly, 50 cents.

ALFRED H. NEWMAN,
BUSINESS MANAGER.

Special Notices.

SPECIAL NOTICE.—On January 1, 1886, the price of the Weekly Bee Journal will be reduced to *One Dollar a Year*. This we have contemplated for some years, and only awaited the proper time to warrant us in issuing the Weekly Bee Journal at the very low price of *one dollar* a year. That time has now come. We shall continue to improve the Bee Journal, and it will maintain its proud position as the leading bee-paper of the World!

"Don't Stop"—that is what many write to us about their papers, when their time is nearly out. One subscriber says: "This has been a year of disaster, and it is not convenient for me to send you the money now to renew my subscription. It runs out with this month; *but don't stop sending it.* I will get the money to you within three months." Such letters are coming every day, and so for the present we have concluded not to stop any papers until requested to do so.

Agents can sell the Guide and Hand-Book like "hot-cakes." Send us an order for five copies (with $2.50) and we will send you the Weekly Bee Journal *free* for a year. This is a *rare* opportunity to get the Weekly Bee Journal without cost!!

The Guide and Hand-Book, is a book of ready reference and an encyclopædia of everything desirable to know. As a guide to the home-seeker, it is invaluable. Its contents are partially given on page 736, and will convince any one of its value. We do not think any of our readers can afford to do without it. As a book of ready reference we find it of great value in our library. We will send the Weekly Bee Journal for a year and the Guide for $1.30.

Any person not a subscriber, receiving a copy of this paper, will please consider it an invitation to become a subscriber to it.

Honey as Food and Medicine.

☞ To create Honey Markets in every village, town and city, wide-awake honey producers should get the Leaflets "Why Eat Honey" (only 50 cents per 100), or else the pamphlets on "Honey as Food and Medicine," and scatter them plentifully, and the result will be a DEMAND for all of their crops at remunerative prices. "Honey as Food and Medicine" are sold at the following prices:

Single copy, 5 cts.; per doz., **40** cts.; per hundred, **$2.50.** Five hundred will be sent postpaid for **$10.00;** or **1,000** for **$15,00.** On orders of **100** or more, we will print, if desired, on the cover-page, "Presented by," etc. (giving the name and address of the bee-keeper who scatters them).

To give away a copy of "Honey as Food and Medicine" to every one who buys a package of honey, will sell almost any quantity of it.

The Western World Guide and Hand-Book of Useful Information, contains the greatest amount of useful information ever put together in such a cheap form. The printing, paper, and binding are excellent, and the book is well worth a dollar. To any one sending us two *new* subscribers besides their own, with $3, for one year, we will present a copy of this valuable book.

☞ Our rates for two or more copies of the book, "Bees and Honey," may be found on the Book List on the second page of this paper. Also wholesale rates on all books where they are purchased "to sell again."

Preserve your papers for reference. If you have no **BINDER** we will mail you one for 75 cents, or you can have one FREE if you will send us 4 new yearly subscriptions for the Bee Journal.

Are you Entitled to a pension? You may be and may not know it. If you examine the Guide and Hand-Book you will soon find out. Thousands of things worth knowing will be found in it. The Bee Journal for 1886 and the Guide Book will both be sent for $1.30.

To Correspondents.—It would save us much trouble, if all would be particular to give their P. O. address and name, when writing to this office. We have several letters (some inclosing money) that have no name; many others having no Post-Office, County or State. Also, if you live near one post-office and get your mail at another, be sure to give the address we have on our list.

When Renewing your subscription please try to get your neighbor who keeps bees to join with you in taking the Bee Journal. It is now so *cheap* that no one can afford to do without it.

The Time for Reading has now come. The long winter evenings can be utilized by reading up bee-literature. We have all the newest bee-books and can fill all orders on the day they are received.

☞ All who intend to be systematic in their work in the apiary, should get a copy of the Apiary Register and commence to use it. The prices are as follows:

For 50 colonies (120 pages)	$1 00
" 100 colonies (220 pages)	1 25
" 200 colonies (420 pages)	1 50

The larger ones can be used for a few colonies, give room for an increase of numbers, and still keep the record all together in one book, and are therefore the most desirable.

Advertisements.

HONEY

WE are now in the market, and will be during the entire season, for all honey offered us, in any quantity, shape, or condition—just so it is pure. We will sell on commission, charging 5 per cent.; or, if a sample is sent us, we will make the best cash offer the general market will afford. We will handle beeswax the same way, and can furnish bee-men in quantities, crude or refined, at lowest market prices. Mr. Jerome Twichell, our junior member in this department, has full charge, which insures prompt and careful attention in all its details.

Sample of comb honey must be a full case, representing a fair average of the lot. On such sample we will make prompt returns, whether we buy or not.

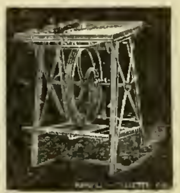
CLEMONS, CLOON & CO.,
36A17 KANSAS CITY, MO.

Use the boss Zinc and Leather Interfering Boots and Collar Pads. They are the best.
45D6t

CLUB-LIST for 1886 now READY.
C. M. Goodspeed, Thorn Hill, N.Y.

EXTRA CHOICE TESTED ITALIAN QUEEN Given Away. Lowest-priced "Club-List" extant. Any two of the leading bee-papers of America for **$1.75.** Write for it.

BARNES' FOOT-POWER MACHINERY.



Read what J. I. PARENT, of CHARLTON, N.Y., says—"We cut with one of your Combined Machines, last winter, 50 chaff hives with 7 in. cap, 100 honey-racks, 500 broad frames, 2,000 honey-boxes and a great deal of other work. This winter we have double the amount of bee-hives, etc., to make and we expect to do it with this Saw. It will do all you say it will." Catalogue and Price-List Free. Address, W. F. & JOHN BARNES,
45Ctf No. 196 Ruby St., Rockford, Ill.

DRAKE & SMITH,
Successors to A. E. Manum, Bristol, Vt.

MANUFACTURERS of the **BRISTOL Bee-Hive**, the Standard Hive of Vermont, **Section Honey-Boxes**, all sizes, made from White Poplar, (the best timber in the world for honey-boxes), 1-pound boxes a specialty. Clamps, Separators and Wood Sides. Lightning **Gluers**, Shipping **Crates**, Bee Escapes, Bee Feeders, and Manum's Bee Smokers—all made of the best material and in a workmanlike manner. Send stamp for illustrated Catalogue and Price-List 46D12t

Vandervort Comb Fdn. Mills,
Send for Samples & Reduced Price-List.
ABtf **J. VANDERVORT, Lacsyvills, Pa.**

HELP for working people. Send 10 cents postage, and we will mail you *free*, a royal, valuable sample box of goods that will put you in the way of making more money in a few days than you ever thought possible at any business. Capital not required. You can live at home and work in spare time only, or all the time. All of both sexes, of all ages, grandly successful. 50 cents to $5 easily earned every evening. That all who want work may test the business, we make this unparalleled offer: To all who are not well satisfied we will send $1 to pay for the trouble of writing us. Full particulars, directions, etc., sent free. Immense pay absolutely sure for all who start at once Don't delay. Address STINSON & CO.
51A1y Portland, Maine.

BEES and HONEY,

OR THE
Management of an Apiary for Pleasure and Profit; by
THOMAS G. NEWMAN.
Editor of the Weekly Bee Journal.

It contains 220 profusely illustrated pages is "fully up with the times" in all the improvements and inventions in this rapidly developing pursuit, and presents the apiarist with everything that can aid in the successful management of the honey-bee, and at the same time produce the most honey in its best and most attractive condition.

PRICE—Bound in cloth, $1.00, postpaid.

☞ **A Liberal Discount to Dealers, by the Dozen or Hundred.**

☞ The Weekly BEE JOURNAL for a year and the book, "Bees and Honey," will be sent for $1.75.

THOS. G. NEWMAN & SON,
923 & 925 West Madison St., CHICAGO, ILL.

Dadant's Foundation Factory, wholesale and retail. See Advertisement in another column.

Given's Foundation Press

THE GIVEN PRESS stands in the front rank for manufacturing **FOUNDATION** in **Wired Frames**, as well as foundation for **SECTIONS**. Without a dissenting voice, all of our customers affirm its superiority. Send for Circulars and Samples.

J. R. CALDWELL & CO.,
1ABtf HOOPESTON, Vermillion Co., ILL.

Bingham Smokers

AND

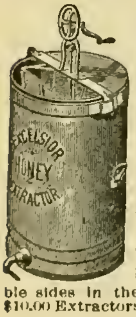
HONEY-KNIVES.

Send for Circulars.

Bingham & Hetherington,
ABRONIA, MICH.

Dadant's Foundation Factory, wholesale and retail. See Advertisement in another column.

EXCELSIOR
HONEY EXTRACTORS



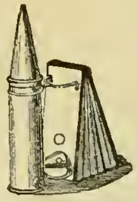
In answer to frequent inquiries for Extractors carrying 3 and 4 Langstroth frames, we have concluded to adopt these two new sizes. The 3 frame basket is in a can of the same size and style as the 2 frame. The 4 frame basket is in the larger can, with the cone or metal standard for the basket to revolve upon, leaving room underneath the basket for 75 or 80 lbs. of honey. It will be complete, with covers, and in every way identical, except in size, with the $16.00 Extractor, 13x20, which is intended for any size of frame.

Excepting with the $8.00 Extractors, all the different styles have strainers over the canal leading to the honey gate, and movable sides in the Comb Baskets. The $8.00 and $10.00 Extractors have no covers.

For 2 American frames,	13x13	inches	........$8 00
For 2 Langstroth "	10x18	"	.... 8 00
For 3 " "	10x18	"	........10 00
For 4 " "	10x18	"	........14 00
For 2 frames of any size,	13x20	"	........12 00
For 3 " "	13x20	"	........12 00
For 4 " "	13x20	"	........16 00

THOS. G. NEWMAN & SON,
923 & 925 West Madison Street, CHICAGO, ILL.

Dadant's Foundation Factory, wholesale and retail. See Advertisement in another column.



Bee-keepers' Supplies,

Standard Langstroth,

Quinby Standing-Frame,

And all other kinds of **Hives,**
MADE TO ORDER,

Quinby Smoker a specialty.

I shall supply anything you need in the Apiary. Send for Illustrated Price List.

W. E. CLARK, successor to L. C. Root,
7Aly ORISKANY, Oneida County, N. Y.

THE BRITISH BEE JOURNAL
AND BEE-KEEPER'S ADVISER.

The BRITISH BEE JOURNAL is published every Week, at Ten Shillings and 10d. per annum, and contains the best practical information for the time being, showing what to do, and when and how to do it.

The British Bee Journal and our Weekly for $3.50.

THE INVERTIBLE HIVE!
INVERTIBLE FRAMES,

Invertible Surplus Honey Cases,
Entrance Feeders, Top and Bottom Feeders,
Hive-Lifting Device, Honey Extractors,
Wax Extractors, Comb Foundation, etc.

☞ My new Illustrated Catalogue is now ready, and will be mailed to all who may apply for it. Address,

J. M. SHUCK,
DES MOINES, IOWA.
10Aly

NEW ONE-POUND HONEY PAIL.

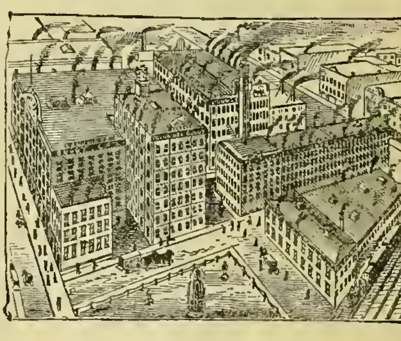
THIS **new size** of our Tapering Honey Pails is of uniform design with the other sizes, having the top edge turned over, and has a bail or handle,—making it very convenient to carry. It is well-made and, when filled with honey, makes a novel and attractive small package, that can be sold for 20 cents or less. Many consumers will buy it in order to give the children a handsome toy pail. **PRICE, 75 cents per dozen, or $5.00 per 100.**

THOS. G. NEWMAN & SON,
923 & 925 West Madison Street, CHICAGO, ILL.

A PRIZE.

Send six cents for postage, and receive free, a costly box of goods which will help you to more money right away than anything else in this world. All, of either sex, succeed from first hour. The broad road to fortune opens before the workers, absolutely sure. At once address TRUE & CO., Augusta, Maine.
51Aly

COLUMBUS BUGGY CO.,
COLUMBUS, OHIO.



(View of our Factory.)

MANUFACTURERS OF
STRICTLY
FIRST-CLASS VEHICLES

At New Orleans World's Exposition was awarded 1st. Premium for finest display of Vehicles, against 64 Competitors.

The justly **celebrated Brewster** cross-spring **side-bar** being our great specialty, we build **only one grade** of work, and that of **the best** in **quality and style.** We do not make the lowest priced vehicles, but claim that ours are the **cheapest in the world** when **quality** is considered. We use the **finest material** obtainable, employ only **expert** and **competent mechanics.** To insure the best and most uniform results, we now **manufacture our own wheels** from **finest timber** (sawed by our own mills) that can be obtained from the hills of Southern Ohio—famous as the **second growth hickory** district.

The reputation of the **Columbus Buggy Company** is unexcelled. The work is known and sold throughout the **entire** United States and Territories. Well introduced in England, Germany, Australia and South America.

Send for Catalogue and prices, and the name of the nearest dealer will be sent. 41A6t

---

GREEN'S FRUIT GUIDE
64 pages, with colored plate, illustrated, price 5 cts. "How to Propagate and Grow Fruit." 64 pages, 2 colored plates, 50 illustrations. price 50 cents.

GREEN'S FRUIT GROWER,
price 50 cents per year. Sample copy free. Address,
GREEN'S NURSERY CO.,
Rochester, N. Y

$200,000

in presents given away. Send us 5 cents postage, and by mail you will get *free* a package of goods of large value, that will start you in work that will at once bring you in money faster than anything else in America. All about the $200,000 in presents with each box. Agents wanted everywhere, of either sex, of all ages, for all the time, or spare time only, to work for us at their own homes. Fortunes for all workers absolutely assured. Don't delay. H. HALLETT & CO.
51Aly Portland, Maine.

Muth's Honey Extractor,

Square Glass Honey Jars, Tin Buckets,
Langstroth Bee-Hives, Honey-Sections, etc.

Apply to **CHAS. F. MUTH,**
Freeman & Central Ave., - CINCINNATI, O.

☞ Send 10c. for Practical Hints to Bee-Keepers.

WEEKLY EDITION
OF THE
AMERICAN
ESTABLISHED IN 1861
OLDEST BEE PAPER IN AMERICA
BEE JOURNAL

THOMAS G. NEWMAN,
EDITOR.

Vol. XXI. Nov. 25, 1885. No. 47.

APICULTURAL NEWS ITEMS.

EDITORIAL AND SELECTED.

The First Bees brought to America were landed at Boston, Mass., in the year 1670, by some Englishmen.

Dr. W. B. Rush, who formerly wrote considerably for the BEE JOURNAL, is now settled at Oakland, Fla.

Ma, did you read in the paper about "vaccinating bees" in Maine? asked Mildred. "Why, no, my dear," replied the old lady, "I did not even know that bees ever took the small-pox."—*Pittsburg Chronicle.*

We Regret to learn that Mr. R. E. Scotton, of Edenville, Iowa, lost his wife, by malaria, on Sept. 2, 1885. She was 65 years of age, and is mourned by a host of friends and relatives. The BEE JOURNAL condoles with the bereaved ones.

The Honey Crop of California, this year, was a very poor one. At Santa Ana, last year, the average product of honey per colony, was 240 pounds, but it has fallen to an average of about 30 pounds for the crop of 1885.

The Wife of Mr. T. S. Hall, Kirby's Creek, Ala., died on Nov. 6, 1885. She was an expert queen-rearer and apiarist generally. She leaves a devoted husband and four children to mourn her loss. The BEE JOURNAL condoles with the bereaved ones.

Mr. O. O. Poppleton and Wife, of Williamstown, Iowa, have gone to Florida to spend the winter, on account of poor health. Having spent some time in Florida before, for the same cause, we hope they will be benefited by that climate, and return to their Northern home next spring full of vigor. Mr. Poppleton is one of the most successful apiarists of America, and usually produces a large crop of honey.

Are you Entitled to a pension? You may be and may not know it. If you examine the Guide and Hand-Book you will soon find out. Thousands of things worth knowing will be found in it. The BEE JOURNAL for 1886 and the Guide Book will both be sent for $1.30.

Eloquent Foolishness.—The sheep-bees lawsuit has brought out many a wail from the shepherds and their friends, but none, perhaps, so nonsensical as the following from Grant County, Wis., *Herald.* After reciting the facts upon which the suit was brought, naming the attorneys, and stating the decision of the Judge, the *Herald* utters its *wail* thus:

> It appears that last spring Mr. Powers was the happy possessor of a flock of mild-eyed sheep, and it was the delight of his life to sit beneath the ivy of his farm-house porch and watch the innocent lambkins disport themselves in the sunlight amid the apple blossoms of the orchard and along the green and grassy slopes leading gently down to the purling brooklet, bordered by golden cowslip and toothsome watercress. It was a peaceful scene, and Hope, enchanted, smiled and waved her golden hair. But even as Satan, in the guise of a pretty serpent, entered the valambrosia of Eden, so the bees of Freeborn, actuated by a fiendish malignity, and armed with the fiery darts of Tophet, winged their remorseless way from the Freeborn heritage to the clover blossoms of the said Powers, as aforesaid, and sipped, and sipped, and sipped.
>
> Mark the result! Deprived of the nectar of the clover blossoms by the rapacity and spoilation of Freeborn's bees, and worried in mind at the loss of the very cream of the meadows, Powers' sheep were broken of their natural rest, and became nervous, dispirited and melancholy. So deeply did the infamous sacrilege and loss of nutriment prey upon the minds of the sheep, and so intense was their mental suffering under the cruel wrong, that they began pining away, broken-hearted, and one after another lay down its burden and closed its eyes upon the earth and all its beauties, to sleep the last long sleep, the dreamless sleep of death, callous and cold. The brutal bees still flitted from flower to flower, and it is believed that Freeborn secretly encouraged them in their scoundrelly work.
>
> Powers stood it as long as his nature was capable of control. One after another, he saw his pets fall by the wayside, turn up their gazelle-like eyes to the floating cloudlets in the azure sky—clouds as light and fleecy as their own downy coats;—and then the iron entered his soul. He did not strike Freeborn dead at his feet, but brought suit against him for the trespass of the bees upon his premises, and entered court prepared to prove all that he asseverated—prepared to prove the loss of nutriment, the mental strain to which the sheep had been subjected by the predatory bees, their grief, humiliation and repinings.
>
> But the attorneys for the defense raised the point that no law existed defining the exact number of bees necessary to constitute trespass. One solitary little bee could not justifiably be termed a trespasser within the full meaning of the law, should he wander away "into by and forbidden paths" and pack his grip with surreptitious saccharine; and if one bee could not constitute a trespasser, how many bees, they desired to know, must invade a prohibited pasture in order to commit a felony?
>
> Judge Clementson said in effect that it was too fine a point for him, and declined to hear evidence criminating the little bees, or proving an alibi in their behalf. The case probably will go to the Supreme Court, where some law may be laid down covering this novel case.

Stupidity and ignorance are combined in the above. The writer assumes that the bees stole from the clover something which the sheep wanted. Instead of that, however, had not the bees fertilized the flowers of the clover, the sheep would have had no clover to feed upon! Instead of being a detriment they were a blessing to the clover and its owner. At the trial they did not assume any such thing—they only claimed that the bees were "trespassers." The last two paragraphs contradict the first three! In the former the sheep are said to have endured "mental suffering," become "nervous, dispirited and melancholy;" and "so intense was their mental suffering" that they pined away, "broken-hearted" and died! Why did they die? This writer says that it was because they were "deprived of the nectar of the clover blossoms by the rapacity and spoilation of Freeborn's bees! and worried in mind at the loss of the very cream of the meadows!"

In the latter the bees were mere "trespassers" on the land, and were said to have committed a "felony!!"

Evidently the *Herald* got out of its element while trying to defend the sheep, and became so "mixed up" that "no one could tell what it was driving at!"

One would suppose from reading the last sentence that the Judges of the Supreme Court were the law-makers! If they go to the Legislature to make *new* laws, there they will be met by the apiarists who will prove that without the bees to fructify the flowers, the clover fields would be useless! Here the sheep-man will be found to have tried to "cut off his nose to spite his face!"

Putting Bees in Cellars.—In the *Prairie Farmer*, Mrs. Harrison says that "a bee-keeper must be governed by the latitude his apiary is in, with reference to the time of putting bees in the cellar. By a vote of the Northwestern Convention last year, it was decided that November was too soon to store them. Last season ours were stored Dec. 1, and two weeks of fine weather followed, when bees that were put upon the summer stands flew many days. Experience teaches us that it is better to store late, and then keep them there until warm weather comes to stay. When the bees are to be carried into the cellar, I fasten them in until the next day, in the meantime leaving the cellar ventilators open. When the bees are quiet, the hives are opened. Do not confine the bees to their hives in the cellar, but leave fly entrances open, and the frames covered with 'comforts,' or better, with woolen blankets."

The Rev. L. L. Langstroth writes us that he has been "alarmingly near to having another attack" of his "old head troubles." We are, however, glad to be able to chronicle the fact of his escape, and to add the following very encouraging words from his letter: "I am better now than for some weeks."

He concludes his letter with a sentence which will be enthusiastically read by all those who intend to be at the Detroit Union Convention. These are his words: "I expect to be at the Detroit Convention, and hope to meet you there." Yes; the editor of the BEE JOURNAL now fully intends to be there, and hopes to meet a large number of the old veterans, and unite with them in welcoming and honoring the father of American apiculture—the Rev. L. L. Langstroth.

Barton Forsgard & Barnes, of Waco, Texas, have sold their bee-paper to a publishing company, as we notice by the October number which has just put in an appearance. The company intend to "catch up," and have the paper out on time, hereafter. It contains 12 pages, and is published monthly at $1 a year.

QUERIES

WITH

REPLIES by Prominent Apiarists.

Feeding Outside the Hives.

Query, No. 161.—As I wish to feed my bees, why could I not do so by putting sugar syrup in empty combs a few rods from the hives, and then let the bees take it in?—H. G. W., Ills.

If there are no other bees near by this could be done; but after putting the syrup in the combs, why not hang them in the hive and "done with it?"—W. Z. HUTCHINSON.

In the first place, you would be likely to feed other people's bees as well your own; and you would make fools and robbers of your bees—chiefly because the colonies that needed feeding the most would get the smallest share of the feed.—G. W. DEMAREE.

It will work very well provided the weather is warm, with no neighboring bees. Possibly the combs might be torn down. Put the combs in the hive and they will be quickly emptied.—C. C. MILLER.

You could, but I would much prefer to feed inside the hives, then my own bees get the food, and there is less danger of robbing; besides, I can feed at any time—night or day, cold or warm.—A. J. COOK.

Owing to the great liability that will be found of starting robbing, such a course of procedure will be dangerous; and if it were not so, it will be found to be full as easy and simple to feed in the usual manner.—J. E. POND, JR.

The combs would be liable to be gnawed badly, and robbing would be started unless they were fed all that they could carry all day. Besides, weak colonies would not get as much of the feed as the strong ones, while, as a rule, the weak ones are those we especially wish to feed.—G. M. DOOLITTLE.

You can do that if you do not care which bees take the most; but we would prefer giving it in the hive and thus regulate the quantity given to each colony. Outside feeding is a very poor method at all times.—DADANT & SON.

You could, but you could not in that way feed them in proportion to their needs, one colony as compared with the others. If your neighbors keep bees, you will also feed them. You are more liable to engender robbing in this way, especially if the syrup contains any honey. It is much better to use a good top-feeder, and it is scarcely more work.—JAMES HEDDON.

There are many ways of feeding bees requiring even less labor than the plan suggested that will not cause any disturbance. The plan that I use seems to be nearly always practicable, which is, to raise the front of the hive and turn the feed in at the entrance. A good top-feeder that holds not over a quart is the best. In cool weather the feed should be given warm, and no more at a time than will keep warm until it is all taken up. Otherwise many bees flying out with their loads will be chilled and lost.—G. L. TINKER.

◆

Virgin Queens and Laying Workers.

Query, No. 162.—Will a virgin queen and a laying worker remain in the same hive together?—Clayton, Mich.

We think that a laying worker will cease to lay if there is a queen hatched in the same hive in natural circumstances.—DADANT & SON.

Yes, with hundreds of laying workers when Cyprian and Syrian bees compose the colony.—G. M. DOOLITTLE.

Yes.—W. Z. HUTCHINSON.

Very likely they might.—A. J. COOK.

A virgin queen will sometimes remain in the same hive for several days, but she is generally "balled" to death, when she returns from her bridal trip.—G. W. DEMAREE.

Yes. Some bee-keepers suppose, and with good reason at times, that drone eggs are laid by laying workers even when a very prolific queen is at work in the same hive. I had an instance this last season where several laying workers were found in a hive with an extra good queen.—J. E. POND, JR.

My experience is that they will not. The reason is, that the queen in attempting to fly out and to mate will be caught and "balled" to death. I have rescued them by caging, when in two days the bees would again receive them; but every time they attempt to fly out they will be "balled." Very many queens are killed in nuclei in this manner, whose loss has been charged to birds or depredating insects.—G. L. TINKER.

◆

Fertilization of Queens.

Query, No. 163.—Will a queen become fertilized if placed in a cage with a drone? I caught a virgin queen and put her into a Peet cage with a drone; the next day I placed her on a frame in a hive containing a nucleus, and in a few days I found newly-laid eggs.—C. A. H.

No. The plan you give did not hinder the queen from becoming fertilized as all queens are.—G. M. DOOLITTLE.

I think not. How do you know that the queen did not fly from the nucleus and thus become fecundated?—W. Z. HUTCHINSON.

No. The queen you caged with a drone was mated before you caged her, or after you introduced her to the nucleus.—G. W. DEMAREE.

The experiment of attempting to fecundate queens in this manner has been tried time and time again, and resulted in failures. There is nothing strange in her laying, but the trouble is, however, that her eggs will produce drones. If she had mated with the drone, the evidence would have been so plain that only a cursory examination would have discovered the fact.—J. E. POND, JR.

She may have flown out to meet a drone before or after being caged.—C. C. MILLER.

No. The queen undoubtedly went out on her bridal trip shortly after being introduced into that nucleus.—DADANT & SON.

Usually not, if ever. May be she flew out and mated after she was put into the nucleus. Probably she was.—A. J. COOK.

I should think not. I never experimented in this line, but those who have, have given it up, I believe. I think that your queen flew out and met a drone on the wing during those "few days."—JAMES HEDDON.

No, and I do not believe a queen ever was fecundated in confinement. Again, it is not desirable to have them so fecundated, even if it were possible. We can accomplish all that the most sanguine can hope for without resorting to the confinement project. The man who discovers a plan of mating queens in confinement will not be hailed as a benefactor.—G. L. TINKER.

◆

OUR CLUBBING LIST for 1886.

We supply the **American Bee Journal** for 1886, and any of the following publications, at the prices quoted in the last column of figures. The first column gives the regular price of both. All postage prepaid.

	Price of both.	*Club*
The Weekly Bee Journal	1 00	
and Gleanings in Bee-Culture	2 00	1 75
Bee-Keepers' Magazine	2 00	1 75
Bee-Keepers' Guide	1 50	1 40
The Apiculturist	2 00	1 75
Canadian Bee-Paper	2 00	1 75
The 6 above-named papers	5 50	5 00
and City and Country	2 00	1 50
New York Independent	4 00	3 30
American Agriculturist	2 50	2 25
American Poultry Journal	2 25	1 75
and Cook's Manual	2 25	2 00
Bees and Honey (Newman)	2 00	1 75
Binder for Am. Bee Journal	1 75	1 60
Apiary Register—100 colonies	2 25	2 00
Dzierzon's Bee-Book (cloth)	3 00	2 00
Dzierzon's Bee-Book (paper)	2 50	2 00
Quinby's New Bee-Keeping	2 50	2 25
Langstroth's Standard Work	3 00	2 75
Root's A B C of Bee-Culture	2 25	2 10
Alley's Queen-Rearing	2 50	2 25
Farmer's Account Book	4 00	3 00
Guide and Hand-Book	1 50	1 30

◆

The Guide and Hand-Book, is a book of ready reference and an encyclopædia of everything desirable to know. As a guide to the home-seeker, it is invaluable. Its contents are partially given on page 750, and will convince any one of its value. We do not think any of our readers can afford to do without it. As a book of ready reference we find it of great value in our library. We will send the Weekly BEE JOURNAL for a year and the Guide for $1.30.

CORRESPONDENCE

Explanatory.—The figures BEFORE the names indicate the number of years that the person has kept bees. Those AFTER, show the number of colonies the writer had in the previous spring and fall, or fall and spring, as the time of the year may require.

This mark ⊙ indicates that the apiarist is located near the centre of the State named: ♂ north of the centre; ♀ south; O+ east; +O west; and this ♂ northeast; ⌐O northwest; O⌐ southeast; and ♀ southwest of the centre of the State mentioned.

For the American Bee Journal.

Production of Extracted Honey.

17—G. M. DOOLITTLE, (40—95).

Beside me lies this request: "Will you please tell the readers of the AMERICAN BEE JOURNAL your method of securing extracted honey, what sized hive you use, and how you prepare them in the spring? and thus greatly oblige thousands of bee-keepers." Of course I desire to oblige "thousands of bee-keepers," but I can hardly see how the writer of this request knows that "thousands of bee-keepers" desire my method; for my opinion is, that "thousands of bee-keepers" would not give a cent for it. However, as I wish to say a few words regarding Query, No. 144, more than I said on page 676 regarding that query, I will give my plan of working for extracted honey.

When working for extracted honey I use what is termed the Doolittle hive, and is described in the pamphlet, "The Hive I Use," which is published at the BEE JOURNAL office. (As I have no interest in the sale of this pamphlet, please do not send to me for it.)

The description of my hives are as plain in the above pamphlet as I can possibly make it, and the writer of the request will please accept this as an answer to his question regarding the size of the hive I use.

Now to the questions: When spring opens there are usually from 6 to 9 frames in the hive having the colony of bees which are to be worked for extracted honey. The bees are restricted to these frames until they are filled with brood clear down to the bottom corners of the frames. If they do not have honey enough they are fed by placing a frame of honey outside of the division-board; or, if no honey is at hand, sugar syrup is fed. As soon as the combs are filled with brood, one or two empty combs are inserted between those filled with brood, thus filling out the brood-chamber. When all the 9 combs in the brood-chamber are filled with brood, the chaff packing is taken out of one of the side-apartments, and 3 frames of sealed brood selected from the 9, and placed into this side-apartment; placing 3 frames of comb in the brood-chamber where they came from. When all are full again, the packing is taken out of the other side-apartment and 3 frames of sealed brood placed over them, filling the space left vacant in the brood-chamber as before. This gives, at the end of another week, 15 frames filled with brood, which is the full capacity of the hive, and as much room as is required by the most prolific queens.

As soon as the flowers begin to secrete honey, another hive, having the brood-chamber filled with empty combs, is placed on top of the one mentioned above, and in from 4 days to a week more the side-apartments are filled with empty combs also. I now have a 30-frame hive with lots of bees all ready to secure the harvest which is now beginning to be at its best. As soon as the honey is being sealed along the top-bars in the second story, I raise this up and put another between it and the first or brood-chamber, when I now have a 45-frame hive which is as large as will be needed even by the most powerful colony, while queens of only moderate capacity require only a 30-frame hive. As a rule none of the queens go into the side-apartments of any of the hives, and the reason for placing the brood over them, as stated, is not to get the queen over there, but to give her room for all the eggs she can lay right in the centre of the hive, so that a mighty force of bees can be obtained just at the right time to gather the harvest. After preparing the hives as above described, they are left until the close of the white honey harvest, when the honey is extracted in a thoroughly ripened condition.

If the above plan is followed, not one colony in one hundred will cast a swarm, which is the reason I answered Query, No. 144 as I did. I see no other method of increase where working profitably for extracted honey, except by division, and the answers to Query, No. 144, which say, "I prefer natural swarming," seem strange to me. Colonies worked in such a way that they desire to swarm, cannot, in my opinion, give the best results in extracted honey. Many do not seem to see that to produce the best results in extracted honey, requires a very different method of management from that required for comb honey.

Messrs. Dadant & Son are correct in their opinions regarding large hives and few swarms, for they work for extracted honey almost exclusively. They are also correct in saying that a hive should have a large capacity so as to give the queen room according to her ability to lay prior to the honey harvest, so that multitudes of bees can be obtained for that harvest; but when the honey harvest has come, I prefer the small brood-chamber, *a la* Heddon. A hive that will not admit of being expanded to the full capacity of a queen in May and June, and of being contracted to 5 or 6 frames during the honey-flow, is not the hive which will give the best results in comb honey, according to my experience; while for extracted honey a hive giving from two to three times the capacity of the queen will give the best results in this direction, no contraction being necessary.

Borodino,⊙ N. Y.

Bee-Keeping in South Australia.

REPORT OF CONVENTION.

The first annual report for the year ending June 30, 1885, was read as follows:

Your committee have much pleasure in presenting to the members of the Association a report of their proceedings during the year. They take this opportunity of explaining how the Association came to be formed, so that there may be no misunderstanding in the matter.

In the early part of the year 1884, a good deal of interest was shown in bee-keeping by many persons residing near Adelaide, and the Chamber of Manufacturers was applied to for the purpose of moving in the matter of organizing a bee-keepers' association. The Chamber at once responded to this application, and called a meeting, which was held July 11, 1884. There was a large attendance, and the movement was warmly taken up, the result being the formation of the South Australian Bee-Keepers' Association.

Your committee think that the fact of this being the first Association of the kind organized in Australia, is a matter for congratulation, and shows that this Colony is at present ahead of her neighbors in apiculture. Whether she will keep the lead depends upon the energy of our bee-keepers, for with a suitable climate and magnificent honey resources, it will be their fault if any of the other Colonies are allowed to pass us.

With one exception, meetings have been held regularly each month throughout the year, and many interesting discussions have followed the reading of papers on various subjects connected with bee-keeping. Mr. J. Robertson read two papers, one on "Swarming," and the other on the "Langstroth Bee Hive;" Mr. J. H. Weidenhofer gave a lecture on "Queen-Rearing," and Mr. A. E. Bonney read a paper on "Foul Brood." The committee regret that during the winter months the attendance at the monthly meetings has fallen off considerably.

There are now 39 members in the Association, and it is expected that this number will be increased as soon as the weather becomes warmer.

Your committee have ordered all the best magazines in the English language devoted to bee-culture, and they are now available for circulation amongst members. It is suggested that a good library of modern books on bee-keeping would be a useful investment for a portion of the funds of the Association.

Two shows of bee-keeping appliances, honey and bees, have been held —one in connection with the Flower Show, on Nov. 27, 1884, and the other at the Royal Society's Autumn Show on March 5, 1885. Both shows were a decided success, and the greatest interest was manifested in the exhibits by numerous visitors. In fact, so attractive was the display on the last occasion that the space allotted was totally inadequate for the requirements, and your committee would suggest to their successors, when arranging for shows in the future, the importance of securing ample room for the inspection of the exhibits. They would also suggest that the instructive character of these shows would be greatly increased by having practical demonstrations of the most important operations which are absolutely necessary in an apiary. In England, exhibitions of this kind have become very popular, and each association has its expert, who is expected to visit the various shows and teach the inexperienced how to handle bees.

Since the introduction of the movable-comb hive, in 1882, the progress of apiculture in South Australia has been very rapid, and it is certain that in the near future this pursuit is destined to become an important industry. In this connection it is interesting to read the report of the judges of the bee-keepers' exhibits at the last show of the Royal Agricultural Society. They say: "We have been exceedingly pleased in inspecting the exhibition of bees, honey, and appliances, organized by the South Australian Bee-Keepers' Association, not only on account of its completeness and general interest, but also because of the evidence it clearly presented that this important industry is making rapid progress in the colony." Two years ago the industry was represented at a similar show in the same building, by a single hive and a few boxes of honey; on this occasion there was shown a most complete series of appliances for the rearing and management of bees, and securing and marketing their products in a humane, easy, cheap, and cleanly manner.

Not the least important sign of progress is the readiness with which local manufacturers have prepared themselves to meet the demands arising from the development of the industry. Nearly the whole of the exhibits, from the neat section-boxes to the ingenious and valuable honey extractor, had been made in the Colony, and many of them are, in our opinion, equal to the imported articles.

It may not be inappropriate to draw attention to the possible expansion of this important industry in a country so well adapted climatically to bee-keeping. In America the magnitude to which the industry has attained is very remarkable. In 1882 it was estimated that there were 70,000 bee-keepers in the United States, possessing among them a total of 2,000,000 colonies, averaging 20 pounds of honey each, which at a price of 5d. per pound, represented a value of £800,000 sterling, besides 20,000,000 pounds of wax, worth £1,200,000; or a total for the year's crop of £2,000,000.

South Australia, with its mild climate and numerous honey-producing trees, is eminently suited for bee-culture, and it is therefore not surprising that some large returns have already been recorded. As far as is yet known, the common red and blue gums are the best sources of honey, and it is to these trees that Messrs. Coleman & May, of Mount Baker, are indebted for their bountiful harvest of last season. They report as follows: "Number of colonies at the beginning of the season, 27; present number, 109—none were bought after the season commenced. Comb honey taken, 4,879 pounds; extracted honey, 9,413 pounds; total amount of honey, 14,292 pounds; an average from each of the original 27 colonies, 529 pounds. The most extracted honey taken from one hive was 414 pounds; most comb honey from one hive, 164 pounds. This splendid average of over 500 pounds of honey per colony is certainly very satisfactory, and gives cause for speculation as to the possibilities which may yet be reached. Your committee trust that the inexperienced will not be led astray with the idea that any one can secure the same results, and that in modern bee-keeping there is no such thing as hard work.

Messrs. Coleman & May are not only skillful and experienced apiarists, but they have an aptitude for the work which is not possessed by all persons. Moreover, they are situated in one of the most fertile districts in the colony, and are surrounded by a variety of beautiful gum trees. They use the standard Langstroth hive.

Your committee feel that this report would not be complete without a notice of the introduction and establishment of Ligurian bees in South Australia. The Hon. R. D. Ross, who has always taken a deep interest in bee-keeping, when speaking at the annual meeting of the Chamber of Manufacturers, on Aug. 2, 1883, urged the advisability of introducing the Ligurian bee, and pointed out the advantages possessed by this superior variety of the honey-bee. The Chamber promptly took action in the matter, and ordered a colony of these bees from Queensland. They arrived safely in Adelaide in the latter part of November. Several pure colonies were reared from this one, and two of them were sent to Kangaroo Island, where they appear to thrive well. Since then numerous importations of Ligurian bees have been made chiefly from the neighboring Colonies, but latterly bee-keepers have wisely turned their attention to getting the bees direct from Italy. The thanks of bee-keepers are due to Mr. Fullwood, of Queensland, for his energy and perseverance in introducing and distributing Ligurian bees throughout Australia.

It may be interesting to briefly notice the most important inventions and discoveries that have been made in apiculture during the year. Mr. Frank Cheshire's investigations into the nature of foul brood, which were described by him in a paper read before the British Bee-Keepers' Association at the Health Exhibition in London, on July 25 and 26, 1884, have attracted the attention of bee-keepers throughout the world. The paper is of deep interest to apiarists in Australia, because of the prevalence of this terrible disease.

At present the subject of reversible frames is the principal topic of discussion in America, and it should be a matter of consideration with members when preparing for next season, whether these frames are not worth a trial.

Great improvements have been made in the system of packing queen-bees to go by mail, and these delicate insects can now be sent on long voyages without much risk.

Your committee are aware of several important matters which will require earnest attention during next year. Perhaps the most important of all is that of finding a market for our honey, or rather improving the present one.

In conclusion, the committee would like to explain that the Association are deeply indebted to the Chamber of Manufacturers for their voluntary assistance in many ways, especially in giving the free use of their rooms for meetings.

The Chamber, in carrying out their policy of encouraging new industries, have undoubtedly given a great impetus to apiculture in South Australia, and their action in this respect is worthy of imitation by similar bodies in the other Colonies.

Mr. A. W. Dobbie moved the adoption of the report, which was creditable to the Hon. Secretary, who had drawn it up. The result of Messrs. Coleman & May's operations was highly encouraging. He estimated the value of the honey at £300, which, if he were right, was a wonderful result.

Mr. Molineux seconded the motion, and remarked that although Mount Barker was exceptionally good, there were places in the Southeast, in the Banksia country, which would probably give infinitely better results. There were hundreds of miles densely covered with *Banksia ernata* and *B. marginata*, the bottle-brush flowers of which were always present, and abounded in honey, which could be shaken out into the hand. There were innumerable other honey-bearing trees and plants in that district, and he thought the maximum average would be marvellous when that country came to be occupied by bee-keepers.

The Hon. R. D. Ross said that when he advocated the introduction of the Ligurian bees, he had not only the honey and wax in view, but also the fact that bees were essential to the fertilization of our orchards. The *Eucalypti* flowered about every third year, but there were so many species of them that there was scarcely ever a time when two or three species were not in bloom—probably no two months could ever be selected in which there was not one species in bloom. He trusted that bee-keeping would lead to the establishment of an industry advocated strongly by his friend Sir Samuel

Davenport, viz., that of flower-farming. The bee-industry had peculiar claims to their favor, since it would give employment to ladies and to men, and young people who could not otherwise profitably occupy their time; or perhaps enable them to raise money with which to enter upon other pursuits.

Mr. G. Taplin asked whether black bees and Ligurians could be kept in the same apiary without injury.

Mr. Bonney replied that there would be an almost certainty of rearing hybrids, which was not desirable. The two kinds ought not to be kept, if possible, within three miles of each other.

In answer to a question, Mr. Coleman said that Mr. Dobbie's estimate of the value of his honey harvest was rather too high, but he had not yet made out the balance-sheet.

Mr. J. F. Conigrave mentioned that Dr. B. Poulton had suggested that an apiary should be established at the Roseworthy Experimental Farm, and that practical instruction should be given there in the management of bees. Prof. Custance now had the matter in contemplation.

Mr. J. Robertson said that for amateurs he would recommend the black bees in preference to the Ligurians, chiefly because of the great expense of the queen of the latter, and the risk of losing her. After they had gotten experience in management they could introduce a Ligurian queen, and thus Ligurianize the colony. Members could obtain every information how to rear and multiply these queens by attending the meetings, and seeking information from the experienced members. The practice was most interesting and instructive, as there were many facts in relation to the natural history of the queens which it was desirable to find out.

Dr. Cockburn had once thought there was a lot of mystery in the management of bees, by the modern system, but upon purchasing some colonies, and getting a little instruction, he found that it was remarkably simple, and the people about Jamestown and the Northern Areas were becoming much interested in bees since he had started his apiary on a small scale.

After some others had spoken, the report of the committee was adopted.

The officers for the ensuing year were then appointed as follows:

President, Hon. R. D. Ross.

Vice-Presidents, Mr. S. Solomon and Dr. B. Poulton.

Committee, Messrs. R. Couch, E. A. Coleman, J. H. Wiedenhofer, H. G. James, A. W. Dobbie, J. Liddle, J. H. Walters, S. Randell, H. H. Dollman, J. Robertson, and A. Molineux.

Treasurer, Mr. W. Stevens.

Secretary, Mr. A. E. Bonney.

A vote of thanks to the President was passed.

Mr. A. E. Bonney practically showed how he would transfer a colony of bees from an ordinary kerosene-box into a bar-frame hive.

Mr. J. Robertson explained what he would do to restore a queen to a colony which had lost that important member of the community.

After several questions had been asked and answered, the members and friends examined a large number of exhibits of bee-appliances, and separated at a late hour.

* * *

For the American Bee Journal.

Prevention of Swarming, etc.

G. C. GREINER.

Mr. W. A. Shewman's article on page 585, reminds me of the bee-campaigns some 6 or 8 years ago. I then believed that prevention of swarming was the desideratum of bee-keeping, and I used all the different ways described to accomplish the object. Looking back to that period, I am now well satisfied that a great deal of time and labor was wasted in trying to manage bees in that way, not saying anything about working against my own interest.

Mr. Shewman is entitled to great credit for producing such a yield as his report shows, taking into consideration the disadvantage of the management under which he has been laboring. A peep into our honey-house would satisfy him that swarming (or even dividing) was a decided advantage. My yield in honey, as well as swarms, was about double that which he reports on page 586.

How Mr. S. succeeded in keeping his bees from swarming, by simply taking one comb of brood and giving one frame of foundation in its place, and repeating the operation a second time, is a mystery to me; unless his bees were not given to swarming that season without such treatment. Bees under the same management, and seemingly the same condition, are more inclined to swarm in one season than they are in another.

Two years ago I had an apiary of 20 colonies about 4 miles from our homestead, and being very anxious that those bees should not swarm, I tried the same plan as Mr. S. describes as being successful, with the exception that I used empty combs instead of foundation, and that I repeated the operation every week, and even oftener with those colonies that seemed the most persistent in their swarming notions. I commenced when the bees began to make preparations for swarming, about June 25, and continued until basswood was in its full bloom, about the middle of July; and to make it still more efficacious, I destroyed all queen-cells as fast as they were started. The result was, that before the basswood flow was over, 13 swarms had issued.

Another point I wish to speak of, hoping that it may prevent less experienced bee-keepers from being disappointed in their expectations: Speaking of the way in which he makes use of his combs of brood, taken from the colonies, he says: "But I never saw brood hatch better." I believe I can safely say that, from years of experience, Mr. S. is in some way misled in his assertion. If he could have such combs of brood that were uniform in their stage of development, all hatching, and a few days within maturity, they would probably all, or nearly all, hatch, if the weather was favorable. Such combs, however, are very seldom found, and a mixed lot of brood, even if the largest part of it was near hatching, would partly perish without a sufficient number of old bees. It would be an easy matter to start nuclei if we did not have to make provisions for the necessary supply of old bees. This is just the point which requires experience and careful management.

Last spring I again had occasion to notice a case of this kind. Whilst making preparations for rearing queens, I took from a strong colony a comb of brood, with the queen and adhering bees, and placed them with another comb in an empty hive. In such cases many of the older bees will generally return to the old stand, and to counteract this desertion I took the precaution to shake the bees from another comb of this strong colony, in front of the hive in which I had placed the one comb of brood and queen. This was done in the afternoon, and upon examination the next morning, I found that most of the bees had left their queen, and it was plain to be seen that the brood was not in a prosperous condition. To save the sound brood that was left, and to guard against robbing and the desire to build up this fragment to a strong colony, induced me to exchange the hive with that of a strong colony.

Naples, N. Y.

* * *

For the American Bee Journal.

The Season, Making Increase, etc.

W. MASON, (11—35).

Bees in this locality have done pretty well, everything considered, especially as regards increase, having fully trebled in number. The bee-pasturage was fine, but the weather was most too wet at times, although a fair yield of honey was obtained from the spring bloom. The fall crop of bloom was immense, but owing to frequent heavy rains, bees stored but little surplus. They worked rapidly between showers, but the honey was used in rearing brood. I never saw more brood during the month of September. As a rule colonies have plenty of winter stores, although a few late colonies had to be fed, owing to the amount of brood reared.

A few apiaries were troubled with some kind of a disease during August and September. During the night large numbers of bees would die, and in the morning a great many bees would come out of the hives in a paralyzed condition, their wings spread forward, and with their abdomens very much contracted and coiled as if stung; but there being much brood on hand, the colonies were not lost. It has all subsided now, and the bees seem to be healthy. Was it "dwindling," or was it the effects of some poisonous matter taken by the bees?

My spring count of colonies was 11, which I increased to 35, and obtained over 500 pounds of honey, my attention being given for increase rather than for honey. The following is my method of getting increase:

When the season arrives for increasing the number of colonies, which is about June 1, and all is favorable, I select the colony that is about ready to cast a swarm, and at a time when the bees are working very strong. I remove the hive to a new location, and having another hive ready I place it on the old stand. I then hunt out the queen in the old hive, and by this time there will be a quart or more of bees about the entrance of the hive. I brush the queen and bees off at the entrance, and see that she enters the hive. The work is now completed. All the bees have visited the fields, having marked their location, and will return and make a strong colony, leaving the old colony strong with young bees to rear a queen.

This is also the method that I practice for getting young queens for my increase.

I use a hive adapted to the Mitchell frame, and an upper-story hive either for hanging-frames or sections, with a raised lid. I have 2-inch auger holes on either side of the lid for ventilation for winter, just above the frames, with wire-gauze tacked over them. These holes are kept closed in the summer to exclude the light. I take off the upper story, having a porous cloth over the bees, with a cotton-padded mat over that, with the lid fitted on the lower story or brood-chamber, and about 3 inches of dead-air space above this matting, the air passages being open. My bees are ready for the bee-house. My bee-house is double-walled and packed with sawdust; the floor is double, and packed also, as well as overhead. I have two 3-inch ventilators through the ceiling, with one at the lower part of the bee-house entrance door, which opens from another room. This entrance or ventilation is screened and obstructed when necessary. I hope I will be able to give a favorable report next spring.

Fillmore,+o Ind.

* * *

For the American Bee Journal.

The Golden Jubilee of Dzierzon.

CHAS. DADANT.

This Jubilee and the 30th Congress of the German and Austrio-Hungarian bee-keepers was held at Leignitz, Germany, beginning on Sept. 8, 1885, and I have, by request, translated and condensed the following report from *L'Apicoltore* for October, 1885.

Prof. G. B. Grassi was delegated to the Jubilee of Dzierzon by the Society for the Progress of Bee-Culture, of Milano, Italy. Although the description of Mr. Grassi's journey to Leignitz, in Silesia, where the Congress assembled, is very interesting, we will pass it by, so as not to take too much space in the AMERICAN BEE JOURNAL.

During his journey, Mr. Grassi met a number of bee-keepers who also were going to the Congress. On the eve of Sept. 8, they were welcomed by a commission, which had been delegated to escort them to the hotels, and to give them the information indispensable to travelers, on their arrival in a foreign city. Mr. Grassi went to the feast of the evening, which was held in a splendid house that was erected in a beautiful grove, and is named *Schiesshaus*.

At 8 p.m. Mr. Grassi entered the room, where about 600 bee-keepers had assembled, notwithstanding it was raining heavily. The beginning of the festival was magnificent. Every one was in good spirits. The speeches and the songs helped to increase the pleasure, and a band frequently enlivened the occasion with some fine music.

The mayor of the city delivered an address of welcome in a few well-chosen words. He said that he had endeavored to becomingly receive the guests, a great number of whom had come a long distance. He added that, as a symbol of the festival, he had prepared a golden bee, printed on a ribbon in the colors of Silesia, which he begged every bee-keeper to accept and to wear on his breast. "The colors of the city of Leignitz are not the colors of Silesia," added the mayor, "but we have selected the colors of Silesia from a motive which we desire to be known by every one. The present Congress is an especial occasion from the fact that this feast is in honor of the greatest representative of bee-keeping, the Reverend Dr. Dzierzon, it being the 50th anniversary of his bee-keeping; and their honored master is a Silesian; Silesia is proud of him; and it is on that account that you will bear the colors of Silesia on your breasts. All the bee-keepers which are here, without distinction of nationality, are brothers; to all I extend a warm welcome. I shall but voice the general sentiment by saying, long live bee-keeping."

The honorary President of the Bee-Keepers' Central Society of Hungary, Baron Ambrozy Temesz-Yarmatha, thanked the city of Leignitz. The Count Eberhard saluted the old Dr. Dzierzon, as the column of honor of bee-culture. Of course every speech was greeted with shouts of "Long live bee-keeping!" After the speeches the Pastor Schonfield, a well-known bee-keeper, invited all those who intended to pay an homage to Dzierzon, to gather in another room, in order to agree on the order of the day. After listening to music again, the bee-keepers sang songs, in which the fear of stings and the use of gloves and veils of the beginners was ridiculed. Speeches followed, and songs in which the national hymns of Germany and Austria were not omitted. The feast lasted till 3 a.m. of the next day.

According to the programme the Congress met at 9 a.m., on Sept. 9, to celebrate the Jubilee of Dzierzon; sociable banquet at 3 p.m., and a great concert at 6 p.m.

Previous to the meeting the bee-keepers repaired to the bee-keeping exhibition, which occupied four rooms. In the first were living bees of several races; in the second, implements; in the third, products; and in the fourth, bee-literature. In the last room there was a large table upon which was exhibited the anatomy of the bee, by Prof. Leuckart, and dedicated to Dzierzon.

Mr. Lortsch had exhibited a very pretty glassed case, showing the successive stages of the development of the bee and its enemies. Mr. Osterloh, of Berlin, exhibited a very large representation of a worker-bee, worth $25. This price is not too high, if we consider that the bee is magnified 65 times, and can be taken to pieces so as to give a very comprehensive idea of the function of the organs—either internal or external—of a bee. With such an object all may easily understand the most complicated parts of a bee, such as the apparatus of the mouth and of the sting. This representation of the bee is already adopted in a great many schools.

At 9 a.m. the highest officer of Silesia opened the festival by thanking the bee-keepers for having honored him with his nomination as Honorary President of their Society. After enumerating the merits of Dzierzon, he presented him with a golden medal, in the name of the royal house of Prussia. Then the representatives of every bee-keepers' society, which were delegated for offering presents to the great master, came forward, according to the order which had been agreed upon the preceding evening. Mr. Grassi was in front, and offered to Dzierzon a diploma of honor, which was encased in a beautiful case of silken plush. It was sent by the Central Society of Milano. Then came in turn the representatives of at least 40 societies, offering gold and silver crowns and medals, a clock, albums, a rocking chair, purses well filled with gold, diplomas, etc., which were from every part of Germany and Austria.

Dzierzon ascended the tribune and seemed very much overcome by the hearty applauses. He said that his merits had been greatly over-estimated. He had studied bee-keeping as a pastime, and this amusement had given him much pleasure. He would be careful not to become too proud in consequence of so many homages. He was especially happy to have so many friends, which were acquired through the study of the small honey-bee. Previous to the union of Germany and Austria, made by the Emperor and the great Chancellor, the small bee had united in friendship all the bee-keepers of that region. "This day," said Dzierzon in concluding, "is the happiest of my life."

These last words were followed by a shout of applause, when Dzierzon descended from the tribune, every bee-keeper being desirous to shake hands with him. He had a smile and a good word for every one. It is truly marvelous that even one master, 74 years old, should yet be so robust, so brilliant.

Then the meeting adjourned.

At 12 m. the session of the Congress began. Dzierzon spoke on the following topic: "Which part of the new theory was discovered by me, and how was I enabled to find it?" He defined the new theory, and remarked that the whole discovery could be resumed in the following words: The drones are procreated without copulation. The discovery was an easy one; but it was very difficult to have it accepted. Fortunately Profs. Siebold and Leuckart assisted him. Dzierzon remarked that his discovery was the consequence of another, made by him also; or, in other words, the discovery of another habitation for the bees. Dzierzon admitted that very many had helped to perfect his discovery; his only merit was in placing the corner stone of the edifice. Of course the speech of Dzierzon was followed by a great many applauses.

I have an engraving in a French book published in 1790, written by Della Rocca, representing a movable-comb hive, with the top-bar enlarged at both ends, such as Dzierzon uses even now. The movable-frame hive was used also by Huber in Switzerland, and about the same time by Bevan, in England, more than 50 years ago, and by a great many others.

The movable-comb hive of Dzierzon is different from the movable-frame hives, since the comb, instead of being encased all around by a frame, is only suspended under a top-bar. These movable-combs of Dzierzon, in spite of the praises given them by Mr. Abbott, of England, are not accepted by the bee-keepers at large, even in Germany and Italy, where the side-opening hive is preferred, because it was known before the movable-top hive of Langstroth; although this last hive had been invented about the same time.

Several discussions took place after the speech of Dzierzon, and at 4 p.m. 400 of the bee-keepers in attendance held a grand banquet. The Syndic of Leignitz, with his wife, was present.

The banquet was followed by music, illuminations, Bengal lights and fire works, which continued the festival until 3 a.m. the next morning. Dzierzon, in spite of his age, was yet in the street at 4 a.m., as jovial as several other priests which were with him.

At 9 a.m. on Sept. 10, the seance of the Congress was opened again, and several discussions followed. At 3 p.m. the Congress was dismissed, and a third festival began. On the following day the bee-keepers went to another feast in the country, to return to their various homes after having fully enjoyed the Jubilee, and desiring to soon experience as much pleasure. Troppau, in Silesia, Austria, was selected as the place for the next meeting of the Congress.

Hamilton,♀ Ills.

For the American Bee Journal.

Do Bees Store Poisonous Honey?

JAS. M'NEILL.

Editor of the Bee Journal: I clipped the enclosed from the *Christian at Work*. The views expressed are directly opposite to those of Prof. Cook on the same subject, in the last Bee Journal. He talks strongly and very decidedly; and Prof. Cook is equally positive. Perhaps Mr. Williams could be induced to send the Professor a sample of the honey for experimentation.

Hudson,♂ N. Y.

Here is the article in full from the *Christian at Work:*

The article of Mr. Todd on this subject is a curious mixture. Concerning its agnosticism, its metaphysics and questions generally that have no bearing on this question, I have nothing to say. I do not believe the public are interested in anything more than to know whether this question should be answered with yes or no, and so far this is an exceedingly important question. That bees will store poisonous honey is a fact established much longer than Mr. Todd has been a resident of this planet, and this fact has often been alluded to by classical writers in both poetry and prose. Comparatively little is written upon this subject from the fact that there are only a few plants that produce poisonous honey, and these are confined to small areas, still we see occasional articles in agricultural papers that give very definite and very reliable information on the subject. The rhododendrons of Trebizond have exceedingly beautiful blossoms, and their honey is concentrated poison. In different parts of the United States are different plants that also yield poisonous honey. Certain varieties of azaleas produce poisonous honey. The kill-calf here takes off three-fourths of the profit of keeping bees. That this is a fact and not a whim I am ready to prove to the satisfaction of agnostics and skeptics of every description. I have 40 pounds of clear, white capped honey gathered while the kill-calf was in blossom, and I will cheerfully feed this to such skeptics until their agnosticism evaporates, and this would feed several hundred at that rate. If Mr. Todd will come up and eat one ounce of it without becoming sick, I will pay his fare both ways, and guarantee that he will need neither an emetic or cathartic for some days.

This honey would sell readily in the New York market, and yet it would be as honest to sell any other poison. As to the idea that the instinct of the bee would prevent it from carrying such poison into the hive, it is all nonsense, as here is the honey nicely capped over, and shows for itself. There is not a man about here that knows anything about bees but knows this to be a fact, but most of them know enough not to put the caps [sections] on the hives until the kill-calf is out of blossom, and then they get white clover honey. Now if I had read this last season, and acted accordingly, this winter I would have luxuriated on buckwheat cakes and honey, and now I am minus the honey. I hope this discussion will save others from such blunders. When I took off my caps [sections] I tasted a little of the honey, only a fraction of an ounce, and the next three days and nights I spent in meditation on the virtues of kill-calf honey; many of my neighbors have fared worse. One young man was paralyzed in the lower extremities for several days.

There is another point worthy of attention. It does not follow from the fact that this is a poison to a man that it is a poison to a bee; on the other hand my neighbors all believe that it is as good as any for the bees. All writers agree that pyrethrum is death to every class of insects, and harmless to human beings. The opposite is true of many things; and what poisons man, may be good for an insect. I could sell my honey to feed bees, but I want it to feed agnostics, and all that will try it will settle this question, as far as they are concerned, at once and forever. The skeptics of Galileo's time would not look through his telescope, they thought it so absurd that looking through a glass would assist the sight. I hope our skeptics on this subject will test this question, now there is a good opportunity, and then they can write about what they know instead of what they guess.

A. M. Williams.
Central Park, Long Island, N. Y.

[We would suggest that Mr. Williams send some of that honey to Prof. Cook "for experimentation," as Mr. McNeill proposes. We were surprised at the statement made by Prof. Cook, and would decidedly favor the proposed experiment.—Ed.]

For the American Bee Journal.

My Report—Wintering Bees.

7—J. F. LATHAM, (17—29).

I commenced the season with 19 colonies, two of which lost their queens during the winter, and three other colonies lost theirs soon after the bees commenced flying; but 14 well-constituted colonies remained as a working force. My united-queenless colonies were nearly useless, for although united to those evincing the possession of good queens, the fussing required to keep them straight proved, as it usually has with me, poorly rewarded efforts. In early spring I have failed, in general, to make the uniting of colonies of about equal strength a success, when the queenless bees were given to those having a queen, as the colony possessing the queen has usually "hung back" until the added force had "died off."

In my uniting operations last spring, in one instance I gave the bees and queen to the queenless colony; in another the queenless one to those having a queen. During the season the first one built up a strong colony, yielding about 20 pounds of surplus, and having a "hive full" of stores; while the latter, with a queen apparently as good as the former, is but a medium sized wintering colony with stores supplied from other hives.

The season just past has been the best for bees that I have known since I commenced bee-keeping. It has been one continuous succession of honey-flows, from the first crimson glow of the soft maples, to the last blossoms of the purple asters. To-day (Oct. 24) I observed quite a large number of my bees entering their hives laden with pollen; and in the field, some 40 rods from the apiary, a patch of late-sowed rape that has escaped the frost, was the theatre of their joyous hum—the "finale" of their season's labor.

Although not as well prepared for the harvest as I ought to have been, yet I secured from 14 colonies 816 pounds of white honey in 1-pound sections, and some over 100 pounds in brood-combs, with an increase of 12 colonies by natural swarming; besides I feel contentment in stating that I *know* that none of my colonies will starve during the coming winter from lack of stores in their hives. One large swarm absconded during my absence—several others were put back.

As the honey season is past, the all-absorbing query arises, how can we best prepare our bees for the coming winter? In my little apiary the question is decided, as my 29 colonies, with the exception of a few "finishing strokes," are prepared (minus "upward ventilation"), as I have usually packed my bees on the summer stands. In consequence of a profuse fall honey-flow, and the want of an extractor, the brood-capacity of the combs in some of my hives was cramped, somewhat so that my colonies are not as strong in bees as I would wish to have them; and I therefore concluded to dispense with the much mooted item—"ventilation over the brood-nest."

During my experience in wintering bees, I have failed to become reconciled to the idea that a colony, or colonies, wintering in our Northern climate should be allowed an unrestricted supply of oxygenized air; but I am not confident enough in the ripeness of my knowledge to accept, *in toto*, the claims respecting the winter air-supply as argued by the correspondent on page 650. A reservoir of pure air in repose, filled from "all out-doors," and allowing the occupants of the brood-nest a free draft from the same, as the laws of density governing the circulation of fluids will supply, is, it seems to me, about the proper arrangement for giving them the privilege of quaffing the life-giving elements as the calls of nature demand, with the assurance that they will use no more oxygen than their conditions require. Leaving the hive-entrance open all winter, the summer width, might do with some colonies, in some localities, but not with all colonies, in all localities.

It is a well-known fact that the respiration of air charged with an excess of oxygen, has a tendency to produce restlessness, while a properly balanced atmosphere will enhance conditions favoring the repose that evidence derived from experience proves to be the normal state in which bees should exist while in winter quarters. Atmospheric pressure, accompanying air in motion, is a powerful circulating agent; therefore, it is very apparent that the draught from the still fount will exercise a more favorable influence than would result from a stimulated respiration.

That bees buried in the ground are comparatively exempt from the results of sudden extreme atmospheric changes, and "cold long continued" (factors so disastrous to successful wintering in our variable climate), is evident from the writings of those of unquestionable experience and qualifications as apiarists. When they have failed, aside from other defects, the main obstacle to success may be attributed, very correctly, to there having been a lack of properly oxygenized air in the bees' surroundings.

My bees have been prepared for every winter as nearly as possible in a manner complying with the foregoing requisites, as I believe their hibernal requirements demand; and should I lose every colony during the coming winter, I am not aware at present that I should attribute the loss to a defective method of "winter preparation."

Cumberland, ♀ Me.

Pacific Rural Press.

Apiary Burned—A Spiteful Act.

Some time ago I noticed an article in the *Press*, stating that a bee-keeper at Anaheim, had had his bees burned while he was away from home. I wrote to a party at that place, requesting him to send me the particulars in regard to it. The following is his reply: "Mr. Gooch, a painter by trade, who lives one and a half miles southwest of Anaheim, has kept about 5 colonies of bees. His occupation calls him away from home at times, for a few days or a week. During his absence, some person broke down part of the fence around his place and overturned four of his hives. The next day a neighbor seeing the hives upset, straightened them up. Next night the destroyer came again; this time killing all the bees in four hives by burning sulphur among them. Not being satisfied with this, he piled the hives up under a large and much-valued pepper tree, covered them with brush, and destroying all with fire. There were several hundred pounds of honey in the hives; when they were tipped over, it ran in streams on the ground. He and some of his neighbors have kept a few colonies each, for many years, but have never been troubled before."

The fact is, the fruit-growers have a mistaken idea that the bees "eat up the fruit," whereas it is the birds, which have been very troublesome this year on account of the scarcity of feed in the hills. Mr. G. says he is quite sure that he knows who it was that destroyed his bees, but is not able to prove the fact. I have my opinion of a thing (you could not call him a man), who would be guilty of so base a piece of business as the above; he had better retire among the savages, where he belongs.

A fruit-grower of Pasadena advocates "the hanging of any bee-keeper who has the temerity to establish his bees where they will prey upon the fruits of his neighbors." Now, he is worse than the one who nearly destroyed the bees—he would hang the bee-keeper. We suppose that the only thing that prevents him from doing so is the fear of the law, which is made for just such persons.

"The bee-keeper who *would* establish his bees!" If he is aware of what he is talking about, he will find the shoe pinching the other foot. In nearly every instance the bee-keeper was there long before the fruit-grower came, but it is the bee-keeper that must retreat, and he is driven back, and back, like the red-man, until he is cornered at the head of some canyon; then they cry, "Away with him; hang him; burn his property!"

There has been a National Bee-Keepers' Union organized in the East, and its power will yet be felt in defending the rights of the much-abused bee-keeper. T. T.

Los Angeles Co., Calif.

[Such lawless acts of violence should be dealt with promptly by the authorities, if the villain could be found. He should be made an example of—and given the full penalty of the law for such wanton acts as described above. As Manager of the National Bee-Keepers' Union, we can assure our California brethren that the Union will "aid and assist" them to maintain their rights. Every bee-keeper on the Pacific slope should at once join the Union.—Ed.]

Milk and Honey.

The chronicler of old could think of no language in which to clothe his idea of a really-good country than to describe it as "a land flowing with milk and honey," and if the signs of the times are not wonderfully misleading, that is to be the truthful description of the United States in the near future. It will delight thousands to learn that the use of milk as a beverage is so rapidly on the increase that the dairy lunch rooms are numbered by the dozen to-day where they were unknown two years ago; and that, at both the hotels and restaurants milk is being much more largely used as a beverage. It is an ill-wind blows good to no one, and in this movement we can see good to all concerned. The honey will follow suit, for our apiaries are annually on the increase, and many can now be named that produce from 5,000 to 25,000 pounds annually.—*Ex.*

Local Convention Directory.

1885. *Time and place of Meeting.*

Dec. 8—10.—Michigan State, at Detroit, Mich.
H. D. Cutting, Sec., Clinton, Mich.

Dec. 8—10.—North American, at Detroit, Mich.
W. Z. Hutchinson, Sec., Rogersville, Mich.

Dec. 8-10.—Northwestern, at Detroit, Mich.
W. Z. Hutchinson, Sec., Rogersville, Mich.

Dec. 8—10.—S. E. Michigan, at Detroit, Mich.
A. M. Gander, Sec., Adrian, Mich.

Dec. 11.—Northeastern Kan., at Hiawatha, Kan.
L. C. Clark, Sec., Granada, Kan.

1886.
Apr. 27.—Des Moines County, at Burlington, Iowa.
Jno. Nau, Sec., Middletown, Iowa.

☞ In order to have this table complete, Secretaries are requested to forward full particulars of time and place of future meetings.—Ed.

SELECTIONS FROM
OUR LETTER BOX

Bees in Winter Quarters.—T. F. Bingham, Abronia,⊸ Mich., on Nov. 16, 1885, writes:

My bees are in winter quarters; 60 colonies in the cellar, and 117 packed as usual, out-of-doors.

Feeding Back Extracted Honey.—A. J. Norris, Cedar Falls,♂ Iowa, on Nov. 13, 1885, writes as follows:

I believe I have made feeding back extracted honey a perfect success. I took two section-cases partly filled, to feed on, and I have them finished in good shape. I think that on these empty or partly-filled combs I can get 27 or 28 pounds in sections for every 30 pounds of extracted honey fed.

Good Report.—Peter Moerlein, Brussels,♀ Ills., on Nov. 16, 1885, says:

White clover was a failure in this locality, but I have obtained a good crop of Spanish-needle honey. I bought 8 colonies last fall in winter quarters, lost one, and had 7 left in the spring of 1885. I have increased them to 31 colonies by natural swarming. I obtained 520 pounds of comb honey and 560 pounds of extracted. My bees are now in very good condition for winter quarters. I have all selected Italians and Syrians in Langstroth hives.

Honey-Samples Wanted.—L. C. Root, President of the North American Bee-Keepers' Society, Mohawk,♂ N. Y., on Nov. 16, 1885, says:

Parties attending the North American Bee-Keepers' Convention at Detroit, Mich., will confer a favor if they will bring samples of extracted honey of about 1 pound each. Each package should be marked with the name and address of the party furnishing it, and also as far as possible they should state the kind of blossoms from which it was gathered, and the variety of bees that gathered it. These parcels will be forwarded to the Commissioner of Agriculture at Washington for analyzation. I have no doubt but the effort to secure a large number of samples from different States will produce results of value to bee-keepers.

Report for 4 Years.—4—H. P. Langdon, (14—50), East Constable,♂ N. Y., on Nov. 16, 1885, writes:

I had 14 colonies of bees last spring, and now I have 50 colonies, and 1,400 pounds of extracted honey from clover and basswood. I will winter my bees on sugar syrup. My expenses for the 4 years that I have kept bees, have been $549.32; my sales of honey have amounted to $417.10; but as I now have a stock that I would not sell for less than $600, I am well satisfied with my work. Give me 50 good colonies of bees in the spring of as good a year as this has been, and I can clear more money from them than I can from my farm, which is a good one of 75 acres, and a good hop-yard of 8 acres included.

Basswood Bloom, etc.—C. Mitchell, Molesworth, Ont., writes:

As I propounded Query, No. 152, I would say that I never saw basswood blossom or yield honey two seasons in succession. Mr. Heddon must be in a paradise where apiaries ought to be profitable. Mr. Doolittle's experiences and decisions are marvels of unerring exactness—except as to snow banks for wintering bees.

Tin Roofs for Hives, etc.—10—John Rey, (25—68), East Saginaw,⊙ Mich., on Nov. 12, 1885, writes:

I have obtained only half a crop, or 33 pounds per colony, this season. I started last spring with 25 colonies, increased them to 73 during the season, and obtained 1,100 pounds of comb honey and 1,300 pounds of extracted honey. I have sold 5 colonies, which leaves me 68; these I have packed in planer shavings on the summer stands. I contracted the most of my colonies down to 7 and some to 6 Langstroth frames, and filled in the space and over the brood-frames with shavings. My colonies are strong in bees, and I left them 30 pounds of honey per colony to winter on, the most of which is white clover honey. The past summer I put tin roofs on my hives, and gave them two coats of paint, which makes a good roof, and costs only 13 cents per hive. I lost 2 colonies last winter just on account of leaky roofs, and for the value of those 2 colonies I could have roofed 100 hives. I use the roofing tin 20x28 inches, and it is just the size for the 10-frame Langstroth hive. I also use hooks for the covers of every one of my hives. To fasten and unfasten them is but the work of a moment, and less trouble than handling a large stone. My hives stand in the open air all the year round, except in midsummer when I shade them with a large board, *a la* Heddon; for the tin roof draws too much heat from the sun.

The North American Bee-Keepers' Society.

This Society will hold its 16th annual convention on Dec. 8, 9 and 10, 1885, at Detroit, Mich. The Hall in which the meeting will be held is known as the "Red Men's Wigwam," and is located at 63 Michigan Avenue, one block west of the City Hall. Just across the street from the "Red Men's Wigwam" is the Antisdel House, which will be the hotel at which the Society will make its head-quarters. The regular rates at this hotel are $2 per per day, but they have been reduced to $1.25 per day to those attending the convention. There will be reduced rates on all Michigan railroads, also as far east as Buffalo, as far west as Chicago, and as far south as Toledo. Efforts are being made to secure reduced rates to still further points, but at present the prospects of success are not very promising. No certificates will be sent out until about Dec. 1; but all who expect to attend should write to the Secretary at once, and certificates will be sent out as soon as they are ready.

W. Z. Hutchinson, Sec.,
Rogersville, Mich.

PROGRAMME.

FIRST DAY.

Tuesday Forenoon Session.—10 a.m. —Convention called to order.—Address of Welcome, by Edwin Willetts, President of the Michigan Agricultural College.—Response, by the President, L. C. Root.—Calling the roll of members of last year, payment of annual dues, reception of new members, and distribution of badges.—Reading the minutes of the last meeting.—Reports of the Treasurer and Secretary.—Announcements.—Miscellaneous business.

Afternoon Session. — 2 p. m. — Announcements. — Annual address of the President. — Miscellaneous business. — "Production of Comb Honey," G. M. Doolittle, Borodino, N. Y.—"Production of Extracted Honey," Chas. Dadant, Hamilton, Ills.—"The Care of Honey for Market," R. T. Holterman, Brantford, Ont.—"Marketing Honey," C. F. Muth, Cincinnati, O.

Evening Session. — 7:30 p. m.— Announcements.— Miscellaneous business.—Discussion of questions that have accumulated in the question-box during the day.

SECOND DAY.

Wednesday Morning Session. — 9 a. m. — Announcements. — Miscellaneous business. — "Bee-Pasturage," Thos. G. Newman, Chicago, Ills. — "Selling and Shipping Bees by the Pound," E. M. Hayhurst, Kansas City, Mo. — Selection of place for holding next convention, and election of officers.

Afternoon Session.—2 p. m. — Announcements.— Miscellaneous business.—"Excellence or Cheapness—Which?" A. I. Root, Medina, O.—"Comb Foundation," John Vandervort, Laceyville, Pa.—"Bee-Keeping as a Business," Dr. C. C. Miller, Marengo, Ills.

Evening Session. — 7:30 p.m. — Announcements.— Miscellaneous business.—Discussion of questions in the question-box.

THIRD DAY.

Thursday Morning Session.—9 a m. — Announcements. — Miscellaneous business.—"Reversing Combs," James Heddon, Dowagiac, Mich. — "The Pollen Theory," Prof. A. J. Cook, Agricultural College, Mich.

Afternoon Session.— 2 p. m. — Announcements.— Miscellaneous business.—"Wintering Bees," Ira Barber, DeKalb Junction, N. Y. — "Different Races of Bees," D. A. Jones, Beeton, Ont.—Adjournment. W. Z. Hutchinson, Sec.

THE NATIONAL

BEE-KEEPERS' UNION.

CONSTITUTION.

ARTICLE I.—This organization shall be known as the "National Bee-Keepers' Union," and shall meet annually, or as often as necessity may require.

ARTICLE II.—Its object shall be to protect the interests of bee-keepers, and to defend their rights.

ARTICLE III.—The officers of this Union shall consist of a President, five Vice-Presidents, and a General Manager (who shall also be the Secretary and Treasurer), whose duties shall be those usually performed by such officers. They shall be elected by ballot, and hold their several offices for one year or until their successors are elected and installed; blank ballots for this purpose to be mailed to every member by the General Manager.

ARTICLE IV.—The officers shall constitute an Advisory Board, which shall determine what action shall be taken by this Union, upon the application of any bee-keepers for defense, and cause such extra assessments to be made upon all the members as may become necessary for their defense.

ARTICLE V.—Any person may become a member by paying to the General Manager an Entrance Fee of ONE DOLLAR to the Defense Fund, and an annual fee of 25 cents, for which he shall receive a printed receipt making him a member of this Union, entitled to all its rights and benefits. The annual fee shall be due on the first day of July in each year, and MUST be paid within 30 days in order to retain membership in this Union.

ARTICLE VI.—Donations of any amount may be made at any time to the Defense Fund, in addition to the entrance and membership fees and the regular assessments made upon the members by the Advisory Board.

ARTICLE VII.—The Defense Fund shall be used for no other purpose than to defend and protect bee-keepers in their rights, after such cases are approved by the Advisory Board, and shall only be subjected to Drafts regularly made in writing by the Advisory Board.

ARTICLE VIII.—The annual fees paid by the members shall become a general fund, from which shall be paid the legitimate expenses of this Union, such as printing, postage, clerk-hire, etc.

ARTICLE IX.—Meetings of this Union shall be held at such times and places as shall be designated by the Advisory Board, or upon the written requisition of ten members.

ARTICLE X.—This constitution may be amended by a majority vote of all the members at any time.

* * *

National Bee-Keepers' Union.

LIST OF MEMBERS.

Addenbrooke, W.,
Allen, Ransom,
Alley, Henry,
Anderson, J. Lee,
Anderson, Wm.,
Angell, C. S.,
Aspinwall, Jno.,

Babb, Enoch,
Bailey, W. G.,
Baldwin, A. A.,
Baldwin, B. T.,
Baldwin, L. W.,
Ball, Miss J. M.
Barnes, Wm. M.,
Barrows, O. B.,
Baxter, E. J.,
Benn, C. M. & W. L.

Bernschein, Ernst,
Besse, H., M. D.,
Billings, L. P.
Billing, Peter
Bitzer, Wm.,
Blanchard, O. C.,
Bledsoe, H.,
Blount, C. N.,

Bohn, Gustav,
Bray, Moses,
Brickey, Peter,
Brown, A. J.,
Buchanan, J. W. & Bro,
Bucklew, J. A.,
Burch, Jno.,
Burrell, H. D.,
Burton, L.,

Camp, C. A.,
Camp, G. W.,
Carder, A.,
Chapman, B.,
Chapman, J.,
Cheney, H. H.,
Christian, P. J.
Christie, Jno. H.,
Clarke, Rev. W. F.,
Clickenger, Earlle,
Conoley, John T.,
Cook, Prof. A. J.,
Cripe, Henry,

Dadant, Chas.,
Dadant, C. P.,
Darby, M. E.,
Dayton, C. W.,
Dawson, L.,
Deadman, G. A.,
Decker, A. A.,
Decker, C. K.,
Demaree, G. W.,
Dibbern, C. H. & Son,
Dickason, T. B.,

Didrickson, O.,
Dittmer, Gus,
Dodge, U. E.,
Doolittle, G. M.,
Dorr, Dr. H R.,
Downs, Robert,
Drane, E.,
Drew, Wm.,
Dunham, P.,
Dunn, John,

Eaglesfield, E. C.,
Eastwood, L.,
Edson, A. S.
Elwood, Sr., W. R.,
England, P. J.,
Enke, Wm.,

Falsoner, J.,
Feathers, Harvey,
Ferguson, S.,
Flanagan, E. T.,
Follett, Charles,
Forbes, W. E.,
France, E. & Son,
Freeborn, S. I.,
Fulton, W. K.,
Funk, H. W.,
Furness, Dwight,

Gander, A. M.,
Gibson, F. A.,
Goodrich, A. S.,
Green, Charles H.,
Greening, C. F.,
Greiner, G. C.,
Greiner, Friedemann,
Gresh, Abel,
Grimm, Christopher,
Griswold, Fred,

Harding, Benj.,
Harlens, J. G.,
Harrison, S. H.,
Hart, F. M.,
Haskin, A. S., M. D.,
Hatch, C. A.,
Havens, Reuben,
Hayhurst, E. M.,
Heater, Mrs. J. N.,
Heddon, James,
Hensley, J. P.,
Hettel, M.,
Hill, A. G.,
Hills, Mrs. H.,
Hilton, George E.,
Hobler, Geo.,
Hogue, R. M.,
Hoke, Abe,
Hollingsworth, C. M.,
Howard, J. B.,
Hoyle, George H.,
Huse, Wm. H.,
Hutchinson, W. Z.,
Hyne, James M.,

Illinski, Dr. A. X.,
Isham, H. B.,

Jackson, Andrew,
Jardine, Jas.,
Jones, George W.,
Jones, Henry,
Jones, J. H.,

Killough, J. M.,
King, D. N.,
King, T. Frank,
Knickerbocker, G. H.,
Koeppen, August
Kruschke, H. O.,
Kyber, G. E. T.,

Lammey, John,
Langstroth, Rev. L. L.,
Lanning, John,
Lawton, B. W.
Leedom, C.,
Le Roy, J. W.,
Lindsly, L.
Ludkey, Charles,
Ludloff, K.
Lyman, W. C.,
Lynch, Jno. C.,

Maddox, W. T.,
Mahin, Rev. M.
Mallory, S. H.,
Manum, A. E.,

Marden, Henry,
Margrave, J. W.,
Marshall, J. W.,
Mason, Jas. B.,
Mattoon, Jas.,
McConnell, James,
McCormick, Emery,
McGee, Charles,
McLees, S.,
McNay, Frank,
McNeill, James,
Millard, D.,
Miller, B. J. & Co.,
Miller, Dr. C. C.,
Miller, Geo.,
Miller, Henry,
Mills, L. D.,
Minnich, F.,
Minor, N. L.,
Morse, William,
Muth, C. F.,
Muth-Rasmussen, Wm.,

Nelson, James A.,
Newman, Alfred H.,
Newman, S. M.,
Newman, Thomas G.
Nipe, James,
Nutt, W. C.,

Ochsner, J. J.,
Osburn, A. W.,
Owens, J. J.,

Parker, D. G.,
Payn, W. N.,
Pennoyer, L. A.,
Perkins, Nelson,
Peters, Geo. B.,
Peters, Jno.,
Phelps, N. T.,
Pond, Jr., J. E.,
Powell, E. W.,
Pray, G. L.,

Rainey, Jarvis,
Raisch, H.,
Reed, L.,
Reed, L. G.,
Rey, John,
Reppert, F.,
Reynolds, M. G.,
Richards, Wm.,
Roberts, Jesse H.,
Rogers, Jno.,
Root, A. I.,
Rose, C. H.,
Rowe, David,
Roye, Burr,

Salisbury, S. W.,
Schaper, E. F.,
Scheuring, Paul,
Seabright, L. C.,
Sears, J. W.,
Secor, Eugene,
Segars, M.,
Shapley, D. L.,
Shearman, J. O.,
Shepard, Horace,
Shirley, W. H.,
Shock, J. M.,
Slade, W. D.,
Smith, David,
Smith, George,
Smith, Mrs. Martha,
Snell, F. A.,
Spady, Jno.,
Spencer, M. L.,
Stearns, J. R.,
Stephenson, H. W.,
Stephens, W. B.,
Stewart, W. H.,
Stocker, Wm. S.
Stolley, Wm.,
Stordock, C. H.,
Storer, E. M.,
Sumner, T. B.,
Sweet, C. L.,

Talbert, M.,
Taylor, George,
Taylor, R. L.
Thatcher, Will.,
Theilmann, C.,
Thompson, Geo. M.,
Tinker, Dr. G. L.,
Tongue, L. N.,
Travis, F. W.,
Travis, I. A.,
Treadwell, W. B.,
Trimberger, John,
Turner, T. E.,
Twining, M. J.,
Tyner, Alonzo,

Vanhouten, C. W.,
Valentine, J. M.
Viallon, P. L.,

Walton, Col. R.,
Webster, H. S.,
Weeks, C.,
Wendt, Henry,
West, Chas.,
Whitney, W. V.,
Wicherts, A.,
Wilkins, Miss Lucy A.
Williams, Geo. F.,
Wilson, W. W.
Wolcott, Wm. C.,
Wright, W. D.,
Wurth, Dan.,

Zwiener H. L.

Honey and Beeswax Market.

Office of the AMERICAN BEE JOURNAL,
Monday, 10 a. m., Nov. 23, 1885.

The following are the latest quotations for honey and beeswax received up to this hour:

CHICAGO.

HONEY.—It is in good demand, and for the best grades of white comb honey 15@16c. is obtained. Off-colored and dark find very slow sale. Extracted is steady at 5@8c. per lb.

BEESWAX.—24@25c. Offerings of honey and wax are light.

R. A. BURNETT, 161 South Water St.

BOSTON.

HONEY.—It is selling very well but prices are very low, and we are often obliged to shade our prices in order to make rates. We quote comb honey in 1-lb. sections at 14@16c., and 2-lb. sections at 12@14c. Extracted, 6@8c.

BEESWAX.—30 cts. per lb.

BLAKE & RIPLEY, 57 Chatham Street.

NEW YORK.

HONEY.—The market for comb honey is quite active, and the demand nearly equal to the supply. Prices are gradually shading, owing to the fact of many producers selling their entire crop in this city at very low prices, thereby enabling the purchasers to sell low and realize a handsome profit. Large lots have been sold here at 9@10c. for fancy goods. In consequence of no honey coming in from the West, we can see no reason why good prices should not be obtained, except as above stated. Present quotations are: Fancy white 1-lb. sections, 14@15c.; the same in 2-lb. sections, 11½@12½c.; fancy buckwheat honey in 1-lb. sections, 11@12c.; in 2-lbs., 9@10c. Off grades 1 to 2c. less.

BEESWAX—Prime yellow, 25@28c.

McCAUL & HILDRETH BROS., 34 Hudson St.

CINCINNATI.

HONEY.—There is a very slow demand from manufacturers, for extracted honey, with a large supply on the market, while the demand is very good for clover honey in square glass jars. Prices for all qualities are low and range from 4@8c. a lb. Supply and demand is fair for choice comb honey in small sections, which brings 12@15c. per lb.

BEESWAX.—Good yellow is in good demand, and arrivals are fair, at 20@22c. per lb.

C. F. MUTH, Freeman & Central Ave.

SAN FRANCISCO.

HONEY.—Choice comb honey is in light supply and is bringing firm figures. There is a fair movement in best qualities of extracted at steady rates. We quote as follows: White to extra white comb, 10@12½c.; amber, 7@8c. Extracted, white liquid, 5¼@5½c.; light amber colored, 4½@4¾c.; amber and candied, 4⅜c.; dark and candied, 4@4¼c.

BEESWAX.—Quotable at 23@25c., wholesale.

O. B. SMITH & CO., 423 Front Street.

CLEVELAND.

HONEY.—The market since our last report has improved very much and there is a good opening for very choice white 1-lb. sections, for which 14@15c. is obtained. Our stock of new is very light at present but of the old we have a good supply which we sell at 10@13c. for white 1-lb. sections. Extracted honey is slow at 6@7c. for best white clover and basswood.

BEESWAX.—Very scarce at 20@22c.

A. C. KENDEL, 115 Ontario Street.

KANSAS CITY.

HONEY.—The demand for honey begins to sag under the present comparatively high prices, and recent warm weather, though choice 1-lb. sections are still scarce and pretty well taken up at 16@17c. We think, however, that the top is reached and any change will be lower prices. Two-lb. sections are selling at 12½@15c. Extracted, dark, 4@6 cts.; white, 7@8c.

BEESWAX.—22½@25c.

CLEMONS, CLOON & CO., cor. 4th & Walnut.

Bee-Keepers' Badges at Fairs.

We have some ELEGANT RIBBON BADGES, having a rosette and gold Bee, for bee-keepers' use at Fairs, Conventions, etc. Price 50 cents each, by mail, postpaid.

THOMAS G. NEWMAN & SON,
923 & 925 West Madison St., CHICAGO, ILL.

WEEKLY EDITION
OF THE
AMERICAN
ESTABLISHED IN 1861
OLDEST BEE PAPER IN AMERICA
BEE JOURNAL
PUBLISHED BY
THOMAS G. NEWMAN & SON,
PROPRIETORS,
923 & 925 WEST MADISON ST., CHICAGO, ILL.
Weekly, **$2** a year; Monthly, **50** cents.

ALFRED H. NEWMAN,
BUSINESS MANAGER.

Special Notices.

SPECIAL NOTICE.—On January 1,1886, the price of the Weekly BEE JOURNAL will be reduced to *One Dollar a Year*. This we have contemplated for some years, and only awaited the proper time to warrant us in issuing the Weekly BEE JOURNAL at the very low price of *one dollar* a year. That time has now come. We shall continue to improve the BEE JOURNAL, and it will maintain its proud position as the leading bee-paper of the World!

◆

"Don't Stop"—that is what many write to us about their papers, when their time is nearly out. One subscriber says: "This has been a year of disaster, and it is not convenient for me to send you the money now to renew my subscription. It runs out with this month; *but don't stop sending it.* I will get the money to you within three months." Such letters are coming every day, and so for the present we have concluded not to stop any papers until requested to do so.

◆

☞ **We have received** from the Publishers a copy of a very handy book for Evening Amusement, entitled "HOW TO ENTERTAIN AN EVENING PARTY," containing a large collection of Tableaux, Games, Amusing Experiments, Card Tricks, Parlor Magic, altogether giving an immense fund of family amusement and parlor or drawing-room entertainment, night after night, for a whole winter. It contains 128 pages, and will be sent to any address on receipt of 25 cents, by J. S. OGILVIE & Co., the Publishers, 31 Rose Street, New York.

◆

☞ **Sample Copies** of the BEE JOURNAL will be sent FREE upon application. Any one intending to get up a club can have sample copies sent to the persons they desire to interview by sending the names to this office, or we will send them all to the agent.

Honey as Food and Medicine.

☞ To create Honey Markets in every village, town and city, wide-awake honey producers should get the Leaflets "Why Eat Honey" (only 50 cents per 100), or else the pamphlets on "Honey as Food and Medicine," and scatter them plentifully, and the result will be a DEMAND for all of their crops at remunerative prices. "Honey as Food and Medicine" are sold at the following prices:

Single copy, 5 cts.; per doz., **40** cts.; per hundred, **$2.50.** Five hundred will be sent postpaid for **$10.00;** or **1,000** for **$15,00.** On orders of **100** or more, we will print, if desired, on the cover-page, "Presented by," etc. (giving the name and address of the bee-keeper who scatters them).

To give away a copy of "Honey as Food and Medicine" to every one who buys a package of honey, will sell almost any quantity of it.

◆

The Western World Guide and Hand-Book of Useful Information, contains the greatest amount of useful information ever put together in such a cheap form. The printing, paper, and binding are excellent, and the book is well worth a dollar. To any one sending us two *new* subscribers besides their own, with $3, for one year, we will present a copy of this valuable book.

◆

☞ Our rates for two or more copies of the book, "Bees and Honey," may be found on the Book List on the second page of this paper. Also wholesale rates on all books where they are purchased "to sell again."

◆

Preserve your papers for reference. If you have no **BINDER** we will mail you one for 75 cents, or you can have one FREE if you will send us 4 new yearly subscriptions for the BEE JOURNAL.

◆

To Correspondents.—It would save us much trouble, if all would be particular to give their P. O. address and name, when writing to this office. We have several letters (some inclosing money) that have no name; many others having no Post-Office, County or State. Also, if you live near one post-office and get your mail at another, be sure to give the address we have on our list.

◆

When Renewing your subscription please try to get your neighbor who keeps bees to join with you in taking the BEE JOURNAL. It is now *so cheap* that no one can afford to do without it.

◆

The Time for Reading has now come. The long winter evenings can be utilized by reading up bee-literature. We have all the newest bee-books and can fill all orders on the day they are received.

◆

Any person not a subscriber, receiving a copy of this paper, will please consider it an invitation to become a subscriber to it.

◆

We have a few more Binders for the Monthly BEE JOURNAL for the years 1883 and 1884. In order to close them out we will mail them,, postpaid, for 30 cents each.

The British Bee Journal is to be published weekly in 1886, at 10s.10d. per annum. We will club it and our Weekly for $3.50 to any post-office in the United States or Canada.

◆

☞ All who intend to be systematic in their work in the apiary, should get a copy of the Apiary Register and commence to use it. The prices are as follows:

For	50 colonies (120 pages)	$1 00
"	100 colonies (220 pages)	1 25
"	200 colonies (420 pages)	1 50

The larger ones can be used for a few colonies, give room for an increase of numbers, and still keep the record all together in one book, and are therefore the most desirable.

◆

Agents can sell the Guide and Hand Book like "hot-cakes." Send us an order for five copies (with $2.50) and we will send you the Weekly BEE JOURNAL *free* for a year. This is a *rare* opportunity to get the Weekly BEE JOURNAL without cost!!

Advertisements.

HONEY

WE are now in the market, and will be during the entire season, for all honey offered us, in any quantity, shape, or condition—just so it is pure. We will sell on commission, charging 5 per cent.; or, if a sample is sent us, we will make the best cash offer the general market will afford. We will handle beeswax the same way, and can furnish bee-men in quantities, crude or refined, at lowest market prices. Mr. Jerome Twichell, our junior member in this department, has full charge, which insures prompt and careful attention in all its details.

Sample of comb honey must be a full case, representing a fair average of the lot. On such sample we will make prompt returns, whether we buy or not.

CLEMONS, CLOON & CO.,
36A17 KANSAS CITY, MO.

BEE-KEEPERS' GUIDE;
Or, MANUAL OF THE APIARY.
12,000 SOLD SINCE 1876.
13th Thousand Just Out!
10th Thousand Sold in Just Four Months
3,000 Sold Since May, 1883.

More than 50 pages, and more than 50 fine illustrations were added in the 8th edition. The whole work has been thoroughly revised, and contains the very latest in respect to bee-keeping. It is certainly the fullest and most scientific work treating of bees in the World. Price, by mail, **$1 25.** Liberal discount to dealers and to clubs.

A. J. COOK, Author and Publisher,
1C1y Agricultural College, Mich.

☞ For sale also at the Office of the BEE JOURNAL, at wholesale or retail.

THE HORSE,
By B. J. KENDALL, M. D.

A TREATISE giving an index of diseases, and the symptoms; cause and treatment of each, a table giving all the principal drugs used for the horse, with the ordinary dose, effects and antidote when a poison; a table with an engraving of the horse's teeth at different ages, with rules for telling the age of the horse; a valuable collection of recipes, and much valuable information.

Price 25 cents—in English or German.

THOS. G. NEWMAN & SON,
923 & 925 West Madison St., CHICAGO, ILL.

The Western World

GUIDE and HAND-BOOK

OF USEFUL INFORMATION.

For HOME SEEKERS or Tourists, Capitalists or Laborers. A vast amount of information not to be found elsewhere at any price.

A cloth-bound book, 4x7 inches, 288 pages

Price, 50 Cents.

The following is only a part of the Contents:

Colored Maps of all the States and Territories, including Alaska and District of Columbia.

Diagrams showing area, population, products, Government, State, School and Indian Lands of the several States.

Histories of each of the States from the Earliest Times.—Descriptive of their Topography, Soil, Climate, Rivers, Mountains, Natural Wonders, Population, Area, Islands, Lakes, Mines, Products, Manufactures, Industries, Cities, School Systems, Collection and Exemption Laws, Date of Holding Elections, Number of Representatives, Senators, Congressmen, and Presidential Electors, Number of Union and Confederate Soldiers in the Field, Price of Land Cleared and in Forest, Extent of Forest, Number of Different Callings, Rate of Interest, Usury Laws, PEDDLER OR DRUMMERS' LICENSE LAWS, DIVORCE LAWS, MINING LAWS, DESCRIPTION OF PUBLIC LANDS, LIST OF LANDS SUBJECT TO THE FORMS OF ENTRY, List of Land-Offices, Opportunities for Homes or Enterprise, Rainfall, Health, Ports of Entry, Population (male, female and foreign) Number of Indians, Mineral Resources, Nicknames of States and for whom or what they are named, Miles of Railroad and Canals, Tidal Frontage, STATE LAND LAWS, Religious Denominations and their Numbers, Number of Counties and Names.

Government Land Laws giving complete law on the subject of PRE-EMPTION HOMESTEAD, TIMBER CULTURE, SOLDIERS' HOMESTEAD, SWAMP LANDS, LAND WARRANTS, SCRIP, INDIAN TRUST LANDS, DESERT LANDS, COAL LANDS, TIMBER LANDS, MINERAL LANDS, AGRICULTURAL COLLEGE LANDS, ETC.

How to Acquire Lands of any kind belonging to the Government by any forms of entry who may acquire them, and the different laws applicable to the different sections.

Postal, Pension and Patent Laws of the United States.

Coats-of-Arms of the States and Views of Celebrated Places, and of life in different regions.

Rules for measuring Lumber, Logs, Grain, Liquids, Tables of Weights and Measures of all kinds, Interest Rules and Tables, Lumber Tables.

Systems of Land Measures in various parts of the United States.

Contains also a Million useful facts.

The Weekly Bee Journal, for one year, and the Guide, postpaid, for $1.30.

THOS. G. NEWMAN & SON,
923 & 925 West Madison St., CHICAGO, ILL.

WIN more money than at anything else by taking an agency for the best selling book out. Beginners succeed grandly. None fail. Terms free. HALLETT BOOK CO.
51A1y Portland, Maine.

Dadant's Foundation Factory, wholesale and retail. See Advertisement in another column.

ELECTROTYPES

Of Engravings used in the Bee Journal for sale at 25 cents per square inch—no single cut sold for less than 50c.

THOS. G. NEWMAN & SON,
923 & 925 West Madison St., CHICAGO, ILL.

Dadant's Foundation Factory, wholesale and retail. See Advertisement in another column.

BEESWAX.

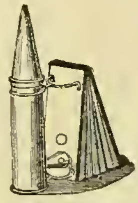
We pay **22c.** per lb., delivered here, for yellow Beeswax. To avoid mistakes, the shipper's name should always be on each package.

THOS. G. NEWMAN & SON,
923 & 925 West Madison Street, CHICAGO, ILL.

THE BRITISH BEE JOURNAL
AND BEE-KEEPER'S ADVISER.

The BRITISH BEE JOURNAL is published every Week, at Ten Shillings and 10d. per annum, and contains the best practical information for the time being, showing what to do, and when and how to do it.

The British Bee Journal and our Weekly for $3.50.



Bee-keepers' Supplies,

Standard Langstroth,

Quinby Standing-Frame,

And all other kinds of **Hives**,
MADE TO ORDER,

Quinby Smoker a specialty.

I shall supply anything you need in the Apiary. Send for Illustrated Price List.

W. E. CLARK, successor to L. C. Root,
7A1y ORISKANY, Oneida County, N. Y.

THE INVERTIBLE HIVE!

INVERTIBLE FRAMES,

Invertible Surplus Honey Cases,
Entrance Feeders, Top and Bottom Feeders,
Hive-Lifting Device, Honey Extractors,
Wax Extractors, Comb Foundation, etc.

☞ My new Illustrated Catalogue is now ready, and will be mailed to all who may apply for it. Address,

J. M. SHUCK,
DES MOINES, IOWA.

10A1y

Dadant's Foundation Factory, wholesale and retail. See Advertisement in another column.

Given's Foundation Press

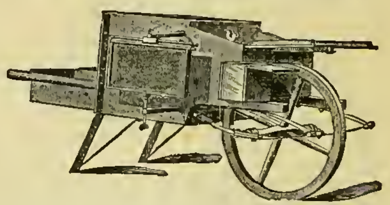
THE GIVEN PRESS stands in the front rank for manufacturing **FOUNDATION** in **Wired Frames**, as well as foundation for **SECTIONS**. Without a dissenting voice, all of our customers affirm its superiority. Send for Circulars and Samples.

J. R. CALDWELL & CO.,
1ABtf HOOPESTON, Vermillion Co., ILL.

A PRIZE. Send six cents for postage, and receive free, a costly box of goods which will help you to more money right away than anything else in this world. All, of either sex, succeed from first hour. The broad road to fortune opens before the workers, absolutely sure. At once address TRUE & Co., Augusta, Maine.
51A1y

Dadant's Foundation Factory, wholesale and retail. See Advertisement in another column.

SYSTEMATIC AND CONVENIENT.



DAVIS' PATENT HONEY CARRIAGE,
REVOLVING COMB-HANGER,
Tool Box and Recording Desk Combined.

Price, complete, only............$18.00.

THOS. G. NEWMAN & SON,
923 & 925 West Madison Street, CHICAGO, ILL.

$200,000 *in presents given away.* Send us 5 cents postage, and by mail you will get *free* a package of goods of large value, that will start you in work that will at once bring you in money faster than anything else in America. All about the $200,000 in presents with each box. Agents wanted everywhere, of either sex, of all ages, for all the time, or spare time only, to work for us at their own homes. Fortunes for all workers absolutely assured. Don't delay. H. HALLETT & CO.
51A1y Portland, Maine.

Muth's Honey Extractor,

Square Glass Honey Jars, Tin Buckets,
Langstroth Bee-Hives, Honey-Sections, etc.

Apply to **CHAS. F. MUTH,**
Freeman & Central Ave., - CINCINNATI, O.

☞ Send 10c. for Practical Hints to Bee-Keepers.

Vandervort Comb Fdn. Mills,

Send for Samples & Reduced Price-List.
ABtf J. VANDERVORT, Laceyville, Pa.

Wooden Pails for Honey!

WE can furnish regular Wooden Water-Pails—well painted on the outside, and with 3 iron hoops and a tight-fitting wood cover, at **$2.25** per dozen. They will hold **25** lbs. of honey, and when empty, can be utilized for use as an ordinary household pail.

THOS. G. NEWMAN & SON,
923 & 925 West Madison Street, CHICAGO, ILL.

HELP for working people. Send 10 cents postage, and we will mail you *free*, a royal, valuable sample box of goods that will put you in the way of making more money in a few days than you ever thought possible at any business. Capital not required. You can live at home and work in spare time only, or all the time. All of both sexes, of all ages, grandly successful. 50 cents to $5 easily earned every evening. That all who want work may test the business, we make this unparalleled offer: To all who are not well satisfied we will send $1 to pay for the trouble of writing us. Full particulars, directions, etc., sent free. Immense pay absolutely sure for all who start at once Don't delay. Address STINSON & CO.
51A1y Portland, Maine.

CLUB-LIST for 1886 now READY.

C. M. Goodspeed, Thorn Hill, N.Y.

EXTRA CHOICE TESTED ITALIAN QUEEN Given Away. Lowest-priced "Club-List" extant. Any two of the leading bee-papers of America for **$1.75**. Write for it.

---

60 New Style, Embossed Hidden Name and Chromo Visiting Cards, no 2 alike, name on, 10c., 13 packs $1; warranted best sold. Sample book, **4c.** L. JONES & CO., Nassau, N. Y.
11A1y

Vandervort Foundation Mill.

6 Inch, Price, $25.00.

It makes the finest extra thin Foundation for comb honey. For Sale by

THOS. G. NEWMAN & SON,
923 & 925 West Madison St., CHICAGO, ILL.

WEEKLY EDITION
OF THE
AMERICAN
ESTABLISHED IN 1861
OLDEST BEE PAPER IN AMERICA
BEE JOURNAL

THOMAS G. NEWMAN,
EDITOR.

Vol. XXI. Dec. 2, 1885. No. 48.

APICULTURAL NEWS ITEMS.

EDITORIAL AND SELECTED.

In Speaking of a person's faults,
Pray don't forget your own ;
Remember those with homes of glass
Should never throw a stone.
If we have nothing else to do
Than talk of those who sin,
'Tis better we commence at home,
And from that point begin.

Before our Next Paper is in the hands of its subscribers, the Detroit Convention will be in session, and we hope it will be attended by all who are able to go. The Secretary has gotten up a very interesting programme, and one that should call out a large attendance. The Rev. L. L. Langstroth intends to be present, and the editors of nearly all—perhaps all—the bee-papers will be there. A large number of the prominent bee-keepers of the United States and Canada have also promised to be in attendance and take part in the deliberations. The following societies will meet in joint convention :

The North American Bee-Keepers' Society
The Northwestern Bee-Keepers' Society.
The Michigan State Bee-Keepers' Association.
The Southern Michigan Bee-Keepers' Association.

The Indiana *Farmer* remarks as follows concerning the advantages to be derived from attending bee-keepers' conventions : "These society meetings are of vast importance to the industry, and should be attended by every one who is at all interested in this growing specialty. Said a veteran bee-keeper to us some days since, 'I make it a point never to miss a meeting of bee-keepers held any place within my reach. I read all I can find on the subject, learn all I can from my neighbors, and pride myself on keeping up with the times, but I believe I have never yet attended a meeting of the kind, that I have not learned some one thing that has paid me well for my time and trouble.' "

The programme will be found on the next page, to which we desire to call especial attention. Let all who can do so, make all necessary arrangements to be there, and enjoy a pleasant re-union.

What Astonishing Ignorance ! is shown by the following item now "going the rounds of the press," credited to the Montana *Miner* :

> Of the two first hives of bees ever taken into Northern Montana, one froze out completely last winter, and the other lost its queen and refused to work. The owner, Charles Roth, substituted a big horse-fly for the dead queen, whereupon the bees became as busy as ever. The horse-fly takes to royalty with the greatest equanimity.

The idea of substituting "a big horse-fly" for a queen-bee, and thereby deceive the bees, is too ridiculous for anything ! The Montana scribbler does not know that the queen is the mother of the colony, laying all the eggs to produce worker bees and drones, and even to re-produce herself. Evidently, when the queen was killed, the colony reared a queen from the eggs or larvæ in the hive, and knew much more than did the Montana paragrapher ! He might as well have put the horse-fly into a bird's nest for all the good it might do !

Eloquent Foolishness was the title we gave to the article from the Grant County, Wis., *Herald*, on page 739 of last week's BEE JOURNAL. We took it to be an attempted defense of the sheep interests, but a correspondent suggests that it was a burlesque—using "irony" to ridicule the action of Mr. Powers. To be charitable we will adopt that view, and call it "ridicule," instead of "foolishness." But there is only a shade of difference in the two words ! Webster gives one word as a synonym of the other. If intended as "irony," it is an amusing piece of eloquent foolishness ; that is to say—*ridicule, satire,* or *sarcasm !* Call it which you please.

Bees and Bee-Keeping is the title of a new book now being issued in England, in parts. It is printed in the highest style of the art on finely-calendered paper, and the engravings are faultless. It is written by Frank Cheshire, Esq., F.L.S. ; F.R.M.S. — The author is undoubtedly the highest living authority on the anatomy and physiology of the honey-bee. He has made it a life study, and under powerful microscopes has made the minutest examinations of every part of the bee. The work is published in parts, price 7d., by L. Upcott Gill, 170 Strand, W.C., London, and will be completed in 19 parts.

We have Received from the Travelers' Insurance Company, of Hartford, a copy of their new engraving, "Representative Parisian Journals and Journalists." It is an interesting and well executed picture, showing fifteen of the leading newspapers of the French Capital, with the portrait of the editor photographed, as it were, upon each. The Travelers' has a handsome way of issuing really good engravings, advertising itself, of course, in an unobtrusive way, but at the same time contributing in no small dgree to the common stock of popular information. As the largest Accident Company in the world, the Travelers' can afford this class of broad advertising, which creates a favorable personal feeling toward itself wherever its attractive art work penetrates.

Any person not a subscriber, receiving a copy of this paper, will please consider it an invitation to become a subscriber to it.

The Annual Meeting of the Indiana State Bee-Keepers' Society will be held at Indianapolis, Ind., in January (the day is not yet named). This Society always has interesting meetings, and the coming one is to have a very attractive programme.

Petrified Honey was some time since found by Mr. A. M. Gray, of Lowell, Mass., in this manner : The Lowell *Courier* says "that he was traveling about the country, seeking to recover his health, which was feeble at that time. He was at one time at Oconto, Wis., and while there he meandered about considerably through the fields. One day, in climbing over a stone wall, a stone upon which he had rested his hand fell to the ground. Its peculiar appearance attracted his attention. In shape it was oval, about the size of an ordinary stove cover, and four inches thick. This stone he took with him, and upon reaching Washington in the course of his journeying, took it to the Smithsonian Institute, and there sought to learn, by comparison with the large and varied collection of geological specimens, just what it was. However, nothing like it could be found. His long search and close scrutiny of the numerous specimens caused one of the professors to inquire what he was searching for. Upon being shown the rock by Mr. Gray, the professor examined it a moment, and then went into ecstacies over it. He said it was petrified honey, a thing which had never before been known. Almost everything else was known to exist in a petrified state, but up to that time petrified honey had never been found. When the piece was broken a beautiful sight was presented of perfectly formed cells with the honey petrified in them in little drops that sparkle like diamonds."

A Home Honey Market is the most desirable and the most valuable thing in connection with every apiary. Mr. John Aspinwall, in the *Bee-Keepers' Magazine*, makes the following very pertinent remarks concerning its advantages :

> You who ship your honey to a commission house, did you ever work one-tenth as hard to build up a home trade as you did to get your honey ?
>
> After you have thoroughly drummed up the trade in your immediate neighborhood, have you ever spent a few dollars for fare on the cars to adjacent towns, and carried a sample to the different groceries and drug stores ?
>
> Do you imagine for one instant, that in this great metropolis, or in any other large city, the people are waiting with open arms, eager to buy your honey at a good round figure ? If you do think so, you are very much mistaken. Why, only to-day a party was in our office, asking where they could sell their honey, as the large honey houses in this city only offered him 10 cents for his white clover honey, in one-pound boxes ! and yet we know where, within the last week, a home market for over a ton buckwheat honey in two-pound boxes, has sold it at 12 cents. And this very market never bought a pound until the party spent a week drumming it up. He sold 300 pounds the first day within a radius of one mile.
>
> The building up of the honey market depends upon a demand of individuals for the product, and only can a taste be inoculated by presenting the sweet at the very doors of families.

One of the prominent features of the Holiday Number of the Cincinnati *Graphic* will be a story entitled, "Taken Alive," by the distinguished novelist, E. P. Roe, which he considers one of his best efforts.

QUERIES

WITH

REPLIES by Prominent Apiarists.

Secretion of Wax.

Query, No. 164.—Can bees secrete wax more than once? or can old bees secrete it at will?—J. H. C.

Old bees can secrete wax.—W. Z. HUTCHINSON.

Yes; but old bees do not take to it from choice.—G. L. TINKER.

They can secrete it when needed, and probably at will.—A. J. COOK.

I think that they secrete wax at will.—JAMES HEDDON.

I think, under pressure, they can, although it is not the usual way.—C. C. MILLER.

This is theory, but we would say yes to both questions, although the secretion of wax seems to be more properly the work of the young bees.—DADANT & SON.

1. I think they can. 2. Old bees sometimes secrete wax, but as a rule bees from 6 to 16 days old produce the wax and build the comb.—G. M. DOOLITTLE.

Yes. I have wintered queenless colonies that built new comb in the late fall when feeding them, and again in the spring they would build new comb before a queen could be reared by them, and before any young bees were hatched.—G. W. DEMAREE.

Bees can secrete wax at any time they choose, and as often as there is a necessity for it. The usual course, however, in a normal colony, is for the older bees to attend to foraging, while the younger ones attend to the house-keeping, building comb, etc.—J. E. POND, JR.

Bees in Chaff Hives in Winter.

Query, No. 165.—Would it do to put chaff hives into a cellar whose temperature is about the freezing point, leaving the cushions on, taking the covers off, and having the entrances wide open?—J. S., Ont.

It might.—C. C. MILLER.

I should prefer to leave them outdoors.—G. M. DOOLITTLE.

I think that I would prefer to leave them out-doors, but I would rather than that, put them in that cellar and keep the temperature up to 45°. The packing would tend to average the temperature as regards the effects inside the hive, where the object is.—JAMES HEDDON.

If the chaff hives were not so made and prepared as to be safe out-of-doors, it would be best to place them in such a cellar during the coldest weather. But in this case I should give no top ventilation. Top ventilation in cellars should be given only when the temperature ranges high, as from 45° to 50°. I think that below 40° only bottom-ventilation should be allowed.—G. L. TINKER.

Yes, it would do, but I should prefer greatly to have the temperature of the cellar never below 45° Fahr.; then I should expect bees to surely winter, otherwise I should not be so sure.—A. J. COOK.

I would not advise putting bees in any hives into a cellar where the temperature is about the freezing point, but I think that the probabilities of success would be greater in chaff hives then in single-walled hives. There may be quite a point here. The important question may be, what is the temperature inside the hive? and not, what is the temperature of the cellar?—W. Z. HUTCHINSON.

I think it would do very well so to do, but I do not conceive that there is any necessity for so doing, as the bees will be fully as safe in common hives. Chaff hives were originated for the purpose of protection while wintering bees on the summer stands.—J. E. POND, JR.

We would not put bees into a cellar at all where it will freeze. Keep them at 40° at least. We would take the covers off and have the entrances as wide as possible.—DADANT & SON.

Section to Hold One Pound.

Query, No. 166.—I want to make a section-box 1 7-16 inches wide, and of such a size as to hold one pound. What is the right size?—W. S. V.

"Very much depends." Do you use separators? Do you reverse your sections? Much also depends upon the strain of bees, and more upon the season. With or without separators all sections of honey will not weigh alike. In this locality your 1 7-16-inch sections would average one pound, if the honey flow was good, and no separators were used.—JAMES HEDDON.

Elements of Royal Jelly.

Query, No. 167.—What are the food elements of the royal jelly which is fed to larval queens? What are the chemical elements or analysis of the same?—W. M. C.

Royal jelly contains both carbohydrates and nitrogenous food elements. I have not the analysis at my command at this minute.—A. J. COOK.

System and Success.

☞ All who intend to be systematic in their work in the apiary, should get a copy of the Apiary Register and commence to use it. The prices are as follows:

For 50 colonies (120 pages)	$1 00
" 100 colonies (220 pages)	1 25
" 200 colonies (420 pages)	1 50

The larger ones can be used for a few colonies, give room for an increase of numbers and still keep the record all together in one book, and are therefore the most desirable.

The North American Bee-Keepers' Society.

This Society will hold its 16th annual convention on Dec. 8, 9 and 10, 1885, at Detroit, Mich. The Hall in which the meeting will be held is known as the "Red Men's Wigwam," and is located at 63 Michigan Avenue, one block west of the City Hall. Just across the street from the "Red Men's Wigwam" is the Antisdel House, which will be the hotel at which the Society will make its head-quarters. The regular rates at this hotel are $2 per per day, but they have been reduced to $1.25 per day to those attending the convention. There will be reduced rates on all Michigan railroads, also as far east as Buffalo, as far west as Chicago, and as far south as Toledo. Efforts are being made to secure reduced rates to still further points, but at present the prospects of success are not very promising. No certificates will be sent out until about Dec. 1; but all who expect to attend should write to the Secretary at once, and certificates will be sent out as soon as they are ready.

W. Z. HUTCHINSON, Sec.,
Rogersville, Mich.

PROGRAMME.

FIRST DAY.

TUESDAY FORENOON SESSION.—10 a.m.—Convention called to order.—Address of Welcome, by Edwin Willetts, President of the Michigan Agricultural College.—Response, by the President, L. C. Root.—Calling the roll of members of last year, payment of annual dues, reception of new members, and distribution of badges.—Reading the minutes of the last meeting.—Reports of the Treasurer and Secretary.—Announcements.—Miscellaneous business.

AFTERNOON SESSION.—2 p. m.—Announcements.—Annual address of the President.—Miscellaneous business.—"Production of Comb Honey," G. M. Doolittle, Borodino, N. Y.—"Production of Extracted Honey," Chas. Dadant, Hamilton, Ills.—"The Care of Honey for Market," R. T. Holterman, Brantford, Ont.—"Marketing Honey," C. F. Muth, Cincinnati, O.

EVENING SESSION.—7:30 p. m.—Announcements.—Miscellaneous business.—Discussion of questions that have accumulated in the question-box during the day.

SECOND DAY.

WEDNESDAY MORNING SESSION.—9 a. m.—Announcements.—Miscellaneous business.—"Bee-Pasturage," Thos. G. Newman, Chicago, Ills.—"Selling and Shipping Bees by the Pound," E. M. Hayhurst, Kansas City, Mo.—Selection of place for holding next convention, and election of officers.

AFTERNOON SESSION.—2 p. m.—Announcements.—Miscellaneous business.—"Excellence or Cheapness—Which?" A. I. Root, Medina, O.—"Comb Foundation," John Vandervort, Laceyville, Pa.—"Bee-Keeping as a Business," Dr. C. C. Miller, Marengo, Ills.

EVENING SESSION.—7:30 p.m.—Announcements.—Miscellaneous business.—Discussion of questions in the question-box.

THIRD DAY.

THURSDAY MORNING SESSION.—9 a.m.—Announcements.—Miscellaneous business.—"Reversing Combs," James Heddon, Dowagiac, Mich.—"The Pollen Theory," Prof. A. J. Cook, Agricultural College, Mich.

AFTERNOON SESSION.—2 p. m.—Announcements.—Miscellaneous business.—"Wintering Bees," Ira Barber, DeKalb Junction, N. Y.—"Different Races of Bees," D. A. Jones, Beeton, Ont.—Adjournment. W. Z. HUTCHINSON, Sec.

CORRESPONDENCE

Explanatory.—The figures BEFORE the names indicate the number of years that the person has kept bees. Those AFTER, show the number of colonies the writer had in the previous spring and fall, or fall and spring, as the time of the year may require.

This mark ⊙ indicates that the apiarist is located near the centre of the State named: ♂ north of the centre; ♀ south; O+ east; +O west; and this ♂ northeast; ⌐O northwest; O⌐ southeast; and ♀ southwest of the centre of the State mentioned.

For the American Bee Journal.

Wintering Bees, Hibernation, etc.

WM. F. CLARKE.

"Bulletins" have been issued by the Michigan Agricultural College, and No. 8 is on wintering bees, and is going the rounds of the bee-periodicals. It is from the able pen of Prof. Cook, and, like all his apicultural writings, is interesting and instructive. The document is of considerable length, discusses most of the phases of the winter problem, and contains a large amount of practical wisdom on the subject to which it relates. Intelligent apiarists are agreed on many of the topics touched upon by the Professor, but some of them are still "open questions" concerning which much can, and no doubt will, be said on both sides. I desire, with all respect, to submit a few strictures on such of the unsettled questions which seem to be left in an unsatisfactory shape, according to my way of thinking.

WINTER LOSSES.

It is a "fact," as affirmed by the "bulletin," that "many apiarists meet with *no loss*." Have we really arrived at certainty so sure that "with full knowledge, followed by equal care and pains, this loss may be wholly prevented?" I have yet to meet with the bee-keeper who sustains "no loss," while no longer ago than last winter, some of our best apiarists, possessed of "full knowledge," and by no means lacking in "care and pains," lost heavily. Shakespeare says of one of his characters:

> "She never told her love,
> But let concealment, like a worm i' the bud,
> Prey on her damask cheek."

We have bee-keepers of considerable note who never tell their losses, but they have them all the same. The only man I have heard pronounce it as easy to winter a colony of bees as it is to winter a horse or a sheep, is always reticent about his losses, though he has had them by the hundreds. I do not think that the science of wintering bees is one of the fixed or exact sciences as yet, though I hope it soon will be, and it seems to me a rather sweeping accusation to hurl at the bee-keeping fraternity, that loss is attributable either to want of "full knowledge," or neglect of due "care and pains." Have not the utmost endeavors of our foremost apiarists been baffled, and has not fatality attended all known methods at times, and under certain circumstances? I think the "bulletin" should not "halloo" so loudly, until its author and others are more completely "out of the woods."

One who lost colonies of bees by the hundred last winter, has told us that he would not give ten cents per colony to have his bees insured for the coming winter. We shall look with great interest for his report next spring, hoping that he has not "counted his chickens before they are hatched." But we are not yet past the stage of experiment in regard to wintering bees, and I think it is the part of discretion to speak with "bated breath" for a few months longer, anyhow.

VENTILATION.

The "bulletin" is, to my mind, eminently—I might say, pre-eminently—unsatisfactory on this point. It tells us that "the physiologist, and especially the physio-entomologist, will not be easily persuaded that insects whose functional activity is so slight that a minimum of food supplies their wants, stand in need of air." Of course it is the winter life of bees which is referred to when their "functional activity" is pronounced "so slight." Why this great change in their habits? (For the explanation of this phenomenon, see the part under Hibernation.)

To demonstrate that bees do not need "much air" in winter, the Professor proceeds to cite a case in which, so far as I can see, they did not have any. A "large colony" which was deliberately "sealed with ice frozen solid at the entrance of the hive," "entombed in a snow bank for more than three months," and furthermore, "the hive glued or propolized at the top," is said to have "wintered exceptionally well." The Professor says, "We can see that the ventilation," in this case, "was slight indeed." I should say from the description given that it was totally lacking, and yet there must have been ventilation of some kind, else such a colony could not have survived, much less "wintered exceptionally well." I must think that we have not all the facts in regard to that "large colony," and I am apprehensive that not the tyro merely, but the experienced bee-keeper may fall into the mistake of minimizing the air-supply, in view of such an example; especially as the Professor goes on to tell us that "physiology and experience both show that under the best conditions *little heed need be given to ventilation*." (The italics are mine.) I make bold to challenge this statement, and to affirm that both physiology and experience, especially the latter, proclaim that the *greatest possible heed* should be given to ventilation. Is it not one of the most common of casualties, that a "large colony" has been suffocated for want of air, in consequence of the entrance to the hive being closed by frozen snow and ice? Too much or too little air, are among the most frequent explanations of winter losses.

Prof. Cook is hardly consistent with himself under this head. The main object of this "bulletin" is to state the "best conditions" for wintering bees well; yet after telling us that "under the best conditions little heed need be given to ventilation," he proceeds to lay down the most specific and minute rules about ventilation by means of sub-air ducts; a stove-pipe connected with the kitchen stove; the regulation of entrances; vigilance with the thermometer, etc.; saying of the cellar, "if it becomes too cold, less ventilation is imperative; if too hot, more may be required." In my opinion, the one thing about which we are most in the dark at the present moment, is this matter of ventilation.

HIBERNATION.

Strangely enough, the Professor both concedes and rejects hibernation in his "bulletin." He concedes it by noting the change that takes place in the "functional activity" of the bee on the advent of cold weather; in summer, that "functional activity" is extreme and incessant, in winter, it is "so slight" that the minimum of food suffices. It is also virtually conceded in the statement that "while bees do not hibernate in the sense of becoming totally inactive, yet they may and should have their vital activity kept at the minimum." Prof. Cook knows very well that "total inactivity" is not the only hibernating condition. Months ago I quoted Kirby, whom Prof. Cook pronounced the highest entomological authority, to show that the state admits of degrees. I have only claimed that bees hibernate imperfectly or partially, and have accepted Mr. Heddon's "quiescence" as I now accept Prof. Cook's "minimum of functional activity," as the equivalent of what I mean by hibernation. I think that my use of the term is scientific and correct.

But after making the concessions I have specified, Prof. Cook rejects hibernation *in toto*, citing what he is pleased to call "the fact that bees do not hibernate." When was this demonstrated to be a "fact?" I had occasion to bring the Professor to task some time ago, for dogmatically affirming that "bees do not hibernate." He "acknowledged the corn" in the most handsome manner, but now repeats the offense. I cannot permit him to parade it as a "fact" that bees do not hibernate, until he proves it. It is now nearly a year and a half since I called attention to hibernation as a phenomenon of bee-life in winter, and the Professor must pardon me for saying that I think he has treated the matter with a species of lofty contempt unworthy of his position. We have never had an article from his pen on the subject, but only the briefest kind of allusions to it.

REQUISITES TO SUCCESS.

The "bulletin" enumerates as "requisites to success in wintering bees, enough good food, uniform temperature without the hives at about 45° Fahr., slight ventilation, and a cover to the hive which is a non-conductor of heat." I would add to or amend this prescription by specifying uniform ventilation; a temperature, self-regulated by the bees, which admits of their subsiding at will into "quiescence," the "minimum of functional activity," or "hibernation;" and absolutely impervious hive-covers. Bees are wintered out-of-doors very successfully when there is not a "uniform temperature without the hives at about 45° Fahr.," and with vertical ventilation below the bees, I would as soon have a mountain or one of the pyramids a-top of my hives as any other cover.

TEMPERATURE.

The "bulletin" insists very strongly on the necessity of "uniform temperature" outside the hives, and expresses a decided preference for cellar-wintering, as the best and cheapest way of securing it. This is, to my mind, one of the great objections to cellar-wintering. I cannot see why bees, any more than human beings, are benefited by "uniform temperature." Why do all medical authorities insist on fresh out-door air and object to people being boxed up in-doors all the time? Bees do not have "uniform temperature" at any other season of the year, why then must they have it during five months of winter? I believe that variations in temperature give the bees opportunity for unlocking the cluster, taking a little exercise in the hive, and occasionally a flight outside the hive. It does not seem to me reasonable to expect them to maintain unbroken quietude all winter long. If there is a chance now and then for a little activity, why should they not enjoy it? The Professor says, "the fact is we *must be able to control, and must control, the temperature.*" The italics are his. In reply, I would say, substitute the word ventilation for temperature. Man's part is to control the ventilation, the bees will then control the inside temperature of the hive. That is their business, and they will perform it well, if we give them the proper ventilation to enable them to do it.

PACKING.

The "bulletin" does this method of wintering but scant justice. It "damns with faint praise" a few examples of success in packing, but conveys the idea that the percentage of loss on this plan is much larger than on that of cellar-wintering. So far as I have been able to judge by the perusal of reports, I have come to a very different conclusion, and while I make the Professor entirely welcome to his preference for the cellar plan, I venture to predict that the ultimate solution of the winter problem will be found out-of-doors.

Guelph, Ont.

For the American Bee Journal.

Bees and Grapes.

S. I. FREEBORN.

I have read with much interest the account of the bee-and-grape suit of San Bernardino, Calif. Some of the accusations of the grape-men, about the depredations of the bees, remind me of what my bees have been accused of at different times, but as yet no grape-men have complained in this locality, I believe; perhaps the reason is that another bee-man and myself have as many or more grapes than are grown by any one else within reach of our bees. I have read about all that has been written on the subject in the bee-papers; I have watched carefully the actions of the bees when among the grapes, and I am fully persuaded that here bees will not puncture the skins of grapes. In proof of this assertion I mention that bees are rarely seen about the Delaware grape. We know that bees are good judges of quality, and were they naturally provided with a fine set of tools for business, as those California witnesses testified to, they would not wait for late-ripening varieties like the Concord, to burst their skins, but they would wade in and clean out the earlier and sweeter varieties like the Delaware, lady, etc. The fact is that they eat more Concord grapes than any other kind, for the reason that more of them burst their skins; frequently one-third of the crop goes that way, and if the weather is warm enough the bees are promptly on hand to get their share. Even the wasps have to stand back and give the Italians a chance.

Of course, in picking grapes it is more or less annoying to get hold of a bee when one expects to take a grape, especially if the picker is not accustomed to bees. If no bees were in the vicinity, the wasps would be on hand and frequently hide themselves inside of a grape-skin, and stay over night; and when the weather is cool enough to make them about half dormant, they are in excellent condition to sting when the fingers touch them in picking the grapes.

While from my experience I have no fear of any number of bees near my vineyard, yet I am fully aware that climate and time and duration of the honey-flow may seem to contradict in California or other places, what we know to be facts here.

I spent 4 months in Southern California, arriving there on Dec. 1, 1884, and leaving on April 1, 1885, and although I was not there at the right time of the year to be an eye-witness of the depredations of bees upon the grapes and other fruits, yet while I was there I visited most of the villages and fruit-growing communities of Southern California, and talked with many fruit and bee men, and I found generally that the bees were held in disfavor by the fruit-men. Some of them declared that legislation must remedy the evil. How this was to be accomplished was not so clear—whether by a sweeping annihilation of the bees, or by restricting them to localities far enough distant from the vineyards to insure immunity from their visits. It will be rather a nice point to legislate upon.

While I was equally interested in both fruit and bees, and had rather committed myself to the assertion that bees never injure sound fruit, I found that some California fruit-men would not argue the question very good-naturedly, whether bees would or could puncture sound grapes. I was referred to the fact that bees had been known to tear down paste-board and hard, dry combs, and in some instances to even enlarge the entrances of their hives by gnawing the wood! They claim that the bees not only injure the grapes before picking, but that they swarm upon the raisins while drying. As much of this is done in the open air in warm weather, and at a time when there is a dearth of honey, it would seem quite probable that they have some grounds for complaint.

I mention these items that we may look at the matter fairly, for "to be forewarned is to be forearmed." The grape and wine interest is a large industry in Southern California, some men counting their vineyards by the hundreds and even thousands of acres. We can hardly tell what the outcome will be, should they bring a united effort to bear upon the Legislature in their interest, detrimental to the bee and honey business. The average bee-man will be unable to cope with the money resources and influence wielded by the grape and wine producers. This I advance as a substantial reason why every bee-keeper, not only in California but in all other parts of the United States, should join the Bee-Keepers' Union.

Ithaca,♀ Wis.

For the American Bee Journal.

Ill. Central Bee-Keepers' Convention.

The second annual meeting of the Illinois Central Bee-Keepers' Association was held in the Court House at Jacksonville, Ills., on Oct. 28, 1885, at 1 p.m. Vice-President Bowen occupied the chair in the absence of President Hitt. The minutes of the previous meeting were read and approved. After a friendly interview and exchange of ideas as to the cause of winter losses, and on many other important subjects, the meeting adjourned until 9 a.m. on the day following.

THURSDAY FORENOON SESSION.

The meeting was called to order at 9 a.m., Prof. J. B. Turner, of Jacksonville, occupying the chair.

The discussion of the subject of the day previous was resumed, viz: "Upper surplus storing capacity *vs.* side surplus storing capacity." It was generally conceded that upper surplus departments were more readily accepted and in accordance with the natural instincts of the bee.

The question, "How are you going to winter your bees?" was then discussed, J. M. Hambaugh, of Brown county, making the opening remarks, the substance of which was as follows: 1. The colony should have a bountiful supply of rations, say 25 to 30 pounds of good, well-ripened honey. 2. Plenty of absorbents at the side and over the brood-chambers, in the body of the hive, to absorb dampness from the brood-nest. 3. Tight hive-covers and wind-breaks in the form of slough grass or fodder packed snugly and tightly around each hive, allowing the entrance free for flight when the weather permits. 4. Perfect quietude, leaving the bees strictly alone, after cold weather sets in. These considerations, with that of free passage of air over the combs, and at the entrance, are the most essential requisites for safe out-door wintering.

Mr. Black, of Adams county, said that besides giving bees stores in purity and abundance, it was best to keep them in-doors with an occasional warming up to 40° Fahr.

Mr. C. P. Dadant would not use a room for bees, but said that they should be well packed with dry forest leaves on the inside and the hive-caps, and outwardly sheltered, with every opportunity of flight when the weather would permit. In reply to a question as to ventilation sufficient to prevent dampness of the combs on the inside of the hive, Mr. Dadant said that with the entrance wide open he considered it sufficient.

Mr. Black said that the indispensable requisites were plenty of stores and the entrance wide open.

Mr. Camm said that while he admitted the rule of plenty of stores, bees often winter well when scantily supplied. He shelters his hives from the wind, and exposes them to the sun in front. The bees seem to forecast the weather, and he follows their evident inclination in preparing them for winter.

Prof. Turner, at considerable length explained the necessity of having such an arrangement of the combs that there would be a good circulation over them so that moisture could be equalized all through the interior of the hive. He said that condensation of moisture can take place only at the entrance, where the cold air first enters.

Mr. Camm said that he had a ¼-inch space over the brood-frames in winter, and that bees would force the quilt up, if not prevented, from ¼ to ⅜ of an inch. He spaces the brood-frames 1⅜ inches from centre to centre.

Here quite an animated discussion ensued between Mr. Camm and Mr. Dadant, as to the proper distance to space the brood-frames. Mr. Dadant was certain from practical experience that 1½ inches, no more nor less, was the proper distance; and Mr. Camm was equally as positive of more satisfactory results with the space 1⅜ inches from centre to centre.

By request, Prof. Turner described a honey-plant, or shrub, growing upon his premises, that originally came from New Mexico. He was unable to give its botanical name, but thought that it was very valuable as a honey-plant. The meeting then adjourned till 2 p.m.

AFTERNOON SESSION.

Mr. C. P. Dadant was chosen to preside in the absence of other officers. It being our regular annual meeting, the election of officers was the first thing in order, and resulted as follows:

President, Wm. Camm; Vice-President, S. N. Black; Secretary, Jos. M. Hambaugh; and Treasurer, G. F. Middleton.

Mt. Sterling, in Brown County, Ill., was agreed upon as the place to hold our next annual meeting, and the second Wednesday and Thursday in October, 1886, was the time selected. The executive committee are to change the date should it interfere with the convention in Chicago about the same date.

The topic, "Will bee-keeping pay financially?" was then discussed.

Mr. Black said that the specialist in a good location, with a natural taste for the pursuit, with tact and energy, could succeed. Mr. Camm also thought that the pursuit, in the hands of those adapted to it, could be made to pay.

Mr. Fox then asked, "How much higher should the price of comb honey be than that of extracted?" It was variously estimated at from one-third more to double the price of extracted honey. Mr. Dadant said that bees would produce from one-half more to double the amount of extracted honey, than comb honey, and more especially in the poor seasons.

The question of controlling after-swarms was then discussed as follows:

J. M. Hambaugh said that his surest method was to let the second swarm issue; hive them in a swarming-box, then be very careful to remove every queen-cell from the parent colony, after which return the swarm. He had never failed with this method. He had also tried the Heddon plan with success.

Mr. Bowen said that the hive has much to do with the swarming fever. He advocated giving plenty of room, in the way of sections, and ventilation in hot weather.

Mr. Black said that hybrids were worse as to swarming than pure-blooded bees, especially Italians. He preferred a black queen crossed with an Italian drone. So did the Secretary, as such hybrids are ever gentle.

With regard to bee-pasturage, Mr. Hambaugh, while claiming that Alsike clover was excellent for honey, said that his cows decreased in milk when they fed upon it exclusively.

Mr. Lieb used Alsike clover mixed with other grasses, and considered it the best for all stock, and best for hay, besides being excellent for honey.

Mr. Camm agreed with Mr. Lieb, but said that cows would not do well on any one grass exclusively, blue grass being the best where a single kind of grass is used. He said that stock kept Alsike clover close to the ground, and it had the habit of creeping, when not very thick, like one of its parents, *Trifolium ripens*. He said that melilot was the best to sow for bees, but he had not yet succeeded in getting a set of it on his land. His cows grazed it down, but horses and mules would not eat it. He considered it an excellent fertilizer when well set.

Mr. Dadant agreed with Mr. Camm in regard to sweet clover, but he said that it catches most readily on poor land.

Mr. Camm wished to know if any had tried sections recommended by Mr. D. A. Jones. He had used a 5-16-inch separator that allowed the bees to pass around the sides as well as top and bottom of the sections, and he found the sections better filled where such passages were used.

Mr. Dadant believed it worth trying.

Mr. J. M. Hambaugh said that by using starters in sections fastened to the sides in place of the top, the starters to nearly or quite fill the sections, it would greatly aid in securing straight combs.

Mr. Camm said that he had tried that method, but when honey came in slowly there was still too much space left around the side of the section.

The question, "Shall we use hives with 8, 10 or more frames?" was then taken up, but as there was no advocates of a smaller than a 10-frame hive, it was uninteresting.

Mr. Camm said that his queens did not exhaust themselves as claimed by some in large hives, and even if they did it was an easy matter to supersede them. He used 8, 10, 13, 14, and as high as 25 frames in a hive. His preference was for a 13 or 14 frame hive.

The convention then adjourned to meet as above stated.

Wm. Camm, *Pres.*
J. M. Hambaugh, *Sec.*

For the American Bee Journal.

Comb Honey vs. Extracted Honey.

CHAS. DADANT & SON.

In answer to Query, No. 153, concerning the relative cost of comb honey when extracted honey is sold at 8 cents per pound, Mr. Pond says: "About one-fourth more"—or 10 cents per pound; Mr. Doolittle says: "Twelve cents;" and Mr. Heddon says: "If your system is up to the best known method, I would put it at 12 cents per pound." Several others put the price at 15 to 16 cents; while we said 20 cents.

Why such a wide difference, especially between Messrs. Pond, Doolittle, Heddon, and ourselves? We based our figures upon the result of more than 15 years' experience with several hundred colonies; but perhaps we did not use the best known methods.

Fortunately we find on page 709, some figures which will help us in proving that our 20 cents per pound is nearer the true comparative value of comb honey than the 12 cents of Messrs. Heddon and Doolittle. These figures and arguments are given by

Mr. Doolittle himself, whose competence cannot be questioned.

Mr. Doolittle had 40 colonies, 13 to rear queens, and 27 to produce honey. Twenty-five of the 27 colonies were devoted to the production of comb honey; the remaining two, being weak ones, were worked for extracted honey. The 25 good colonies gave an average of 119 pounds of comb honey; the 2 weak ones gave 188 pounds of extracted honey for sale, and 200 pounds of honey in 40 combs, sealed and preserved for feeding any needy colony in the fall. The whole amount was therefore 388 pounds, or for each colony 194 pounds, which, at 8 cents per pound, amounts to $15.52 for each one of these "weak colonies." If we divide $15.52 by 119, the number of pounds produced by every one of the stronger colonies which were worked for comb honey, we find that 13 cents is the comparative cost of comb honey. But we will show that there is something to be added to this cost for expenses and work.

Now every bee-keeper has noticed that in a lot of 27 colonies, the weakest would produce at least 50 per cent. less than the average of the others. But as we fear of being charged with exaggeration, let us suppose that the difference between the production of the two weak ones, and the production of the strong ones, was only one-third. The production of each one of these two, if as strong as the average of the 25 others, would have been increased to 259 pounds, which, at 8 cents per pound, would have amounted to $20.72. If we divide $20.72 by 119, the number of pounds produced by each one of the stronger colones, we have 17 2-5 cents as the value of a pound of comb honey, when compared with extracted honey at 8 cents per pound.

But our calculations do not stop there. In the washing of the cappings of extracted honey, we find some honey to make good vinegar; the cappings also yield us some beeswax; and these products pay about all the expenses of extracting. There is no such surplus in producing comb honey, but on the contrary Mr. Doolittle had to provide his bees with sections, and with comb foundation; he had to fasten this foundation in the sections; bend the sections and arrange them carefully in the surplus apartment; one cent per pound of honey cannot cover these expenses and the work.

Now, after harvesting, Mr. Doolittle had to clean every section; packed them in crates glassed on both sides; and incurred the risks of moths, of leakage, of breakage, etc. Furthermore, to produce comb honey, Mr. Doolittle uses small hives, and his bees swarmed so much that now he has 95 colonies—which, on Oct. 20, appeared rather light in bees—from 40 colonies in the spring. We would prefer 60 good colonies for winter to 95 light ones.

If all this surplus work is not worth one cent more per pound for the honey obtained, it is not worth anything. Do you not see that we are very near 20 cents? It is true that we have put in account all the expenses and all the work, while such expenses seems to be too much neglected by the bee-keepers at large.

It can be objected that Mr. Doolittle made 55 *light swarms*, and that these swarms should be put in the account. Yes! but he had 13 colonies to rear queens, and bees, of course; he had combs and honey from his bees that died during the last winter, and it is probable that the 2 colonies used to produce extracted honey, contributed their share of brood and bees to help the new colonies, since their queens having more room than the queens of the colonies crowded to produce comb honey, they had certainly more bees and brood to spare.

Hamilton, Ills.

For the American Bee Journal.

Poultry vs. Bees—Shade for Hives.

W. A. PRYAL.

One of the questions that arise every few years is, "Do hens eat bees?" Several times have I seen statements in different apicultural papers to the effect that they do eat bees, and that fowls thus caught in the act and immediately killed gave proof that such is the case. This past spring and summer I watched the turkeys, chickens and ducks that spent much of their time about the bee-hives, and as a result I found that the ducks would eat all the dead bees that they found lying on the ground, and such live bees that chanced to fall or alight on the ground.

The female chickens, young and old, seemed to shun the bee-yard, while the roosters, especially the younger ones, or those just learning to crow, would spend the greater part of their time among the bees. The worker bees I found had no attraction for them, in fact they did not appreciate the attempts of these warriors as they tried to drive them off. For the drones these roosters had a great partiality. They would take a position a little to one side of a hive, and with their heads not far from the hive-entrance they would pick off the drones as they would appear. They discriminated admirably between workers and drones. Occasionally a worker bee would get its ire aroused and make for the fowl, and if he did not kill the bee as it hovered about on wing, he would run off a short distance into a bush; or if the bee would get into his plumage he would pick it off, and return to his place beside the hive for more drones. After a while some of these roosters learned to catch the drones as they were flying about the hive. As other bee-keepers have doubtless seen chickens catch drones, I need not give a further description of how they do it.

I have learned that it does not do to have chickens in the bee-yard when rearing queens, for they will, I think, be liable to catch and eat the young queens as they emerge from or return to their hives. Besides, those of the drones which are considered valuable for breeding purposes, will be destroyed.

If chickens are to be given free access to the apiary, I am sure the better way to do, where one has young queens that are about to make their nuptial flight, is to have the hives containing such queens raised high enough from the ground so that the alighting-board will be out of the reach of chickens; and likewise treat in the same way those hives containing choice drones. Welcome indeed will be the chickens to the drones of spurious mixture. When chickens can be in this way made to exterminate all useless drones, it is apparent that the honey crop will be greater.

SHADE FOR HIVES.

When vines are not wanted nothing is better than the pepper-tree (*Schinus Molle*) for shade for hives during hot weather, which belongs to the same natural family as the sumacs, the mango, and the cashew tree. This tree is now quite common in California, having been brought to this State many years ago from its native Peru. Around San Francisco and Oakland it is used as a lawn tree, and is as graceful a tree for this purpose as one could desire. In the vicinity of San Francisco they grow from 10 to 15 feet in height, while in the southern part of the State they attain to double this size. In that part of the State it is one of the principal shade trees, and it is said to be as common there as the maple is in the Eastern States.

The flowers of the pepper-tree are small, of a greenish white color, in loose panicles, and are succeeded by coral-red fruits which are quite ornamental. The branches have a graceful appearance, and cause the tree at a distance to look like a weeping-willow. The flowers, which are in great profusion in September and October, are much sought after by the bees. I have heard that the honey gathered from them has an exceedingly peppery taste, so much so that it is disagreeable. However, as it is gathered at a time when it does not interfere with the commercial honey of California, it must be quite an object to the apiarist to have these trees in his vicinity. I understand that they are being largely planted in the lower part of the State, some landed owners setting them out closely in rows around their property, and trimming the trees into the form of hedges. This also constitutes a good wind-break.

When it is desired to use them as shade for hives, I would recommend that a number of trees be planted in rows, say two parallel rows ten feet apart in the rows. In a few years these trees will have attained the height of ten or more feet, and the branches of the adjoining trees will have interlocked, and those branches all around the outside of the two rows will be touching the ground. The branches on the south side are to be trimmed about five feet from the ground, which will let in all the light from that side. Any branches that may be hanging down inside this pepper-tree arbor are to be clipped off. One or two rows of hives may be placed under this arbor, and as years pass the apiarist will more and more love to work among his hives beneath the grateful shade thus afforded, and surrounded with the gentle murmur of his pets; and as he inhales the pleasant aroma exhaled by the leaves of the trees overhead, and which aroma is delightfully mingled with that issuing from the honey of his hives, he cannot help but feel that he is in a paradise indeed.

THE ACACIA FOR SHADE.

Australian acacias make excellent shade for hives in California. Of the many varieties now growing in this State, I consider *Acacia latifolio* the best. It is of rapid growth, and gives plenty of shade. It furnishes pollen, but no honey. The only objection to the acacias is that they are easily broken by the wind, and that they make an everlasting litter on account of always shedding their leaves.

MONTEREY CYPRESS FOR WIND-BREAKS.

Perhaps no place in the world has better native trees for wind-breaks than California, and strange, too, no other place seems to need wind-breaks less than does that favored spot. Her trees are of rapid and gigantic growth, and seem to defy the four winds of the earth. Even the large growths of other countries when transplanted to the soil of the Golden West seem to try and out-do the native giants. This we see in some varieties of *Eucalyptus*, which are now so common in California.

Of domestic and imported trees that are suitable for wind-breaks in California, none are equal to the Monterey cypress, botanically known as *Cupressus macrocarpa*. It is the most extensively planted cypress in the State, and is set out in clumps or as single specimens. In clumps with other evergreen cypresses or pines it makes a fine effect. When alone it is generally trimmed into shapes after the Italian or French fashions, being easy to shape it into various forms, which, however well some may like them, are stiff and unnatural. Hardly a garden is without its Monterey cypress hedge; no matter where you go in California you will see these hedges great and small. From 2 feet high up to 15 or 20 they are to be seen in nice trim. When the shears are used on them every few months, they present a surface rivaling the smoothness and beauty of any well-kept lawn. For the bee-keeper they make a hedge and fence that is unsurpassed.

Seedlings are the best to set out, and after a year or two old may be treated to the shears to get them into uniform shape and heighth. After trimming for 5 or 6 years, so that the branches near the ground are closely matted, the bee-keeper may, if he desires, give them no further attention. They will make a wind-break that no wind can uproot, and a fence that stock cannot get through. I have seen nicely cropped Monterey cypress hedges surrounding bee-yards in California, and nothing could be more pleasing. This cypress may succeed in the Southern States, but I hardly think that it will in the North. Have any of the readers of the BEE JOURNAL tried it?

North Temescal,⊸ Calif.

For the American Bee Journal.

Selling Honey in Fruit Cans, etc.

J. M. CLARK.

I commenced bee-keeping 3 years ago this fall with one colony, and by natural swarming, dividing, and transferring bees for some of my neighbors, they giving me the bees and brood and taking the honey, as all they cared for, I had increased my apiary to 14 colonies. These I packed on the summer stands with chaff. I lost 8 of them during the winter and spring, leaving 2 strong, 2 weak, and 2 very weak colonies with which to commence the season with last spring. These have increased to 11 strong colonies, which are now packed snugly in chaff on the summer stands, with 30 pounds each (including the weight of bees) of honey and granulated sugar syrup. My honey crop this season consisted of 250 pounds of extracted white clover honey, 400 pounds of extracted basswood honey of very fine quality, and about 150 pounds from buckwheat and fall flowers. I fed 100 pounds of granulated sugar syrup for winter stores.

I took some basswood honey to our County Fair, on which I obtained the first premium. Many of my bees attended the Fair on their own account, very much to the annoyance of the "warm candy" and "popcorn ball" venders. I find ready sale for my honey in fruit cans and jelly glasses, from my news-room window, where it attracts much attention. The average price is 12½ cents per pound. The past summer I put out 2½ acres of fruit. I expect to make specialties of berry raising and bee-keeping.

Hillsdale, ♀ Mich.

Read at the Wabash County, Ind., Convention.

Spring Management of Bees.

AARON SINGER.

Successful spring management depends upon the knowledge of the operator, the condition of the colonies, and the natural surroundings. One of the essential objects to be attained is strong colonies at the beginning of the honey harvest; and in order to obtain this our colonies should begin breeding as soon as surrounding circumstances will admit. As a general rule, in this latitude, bees begin to breed, when in a normal condition, about the last of February or by March 1.

Breeding can be stimulated from this time, by the apiarist, if he sees fit to give his colonies proper attention. The manner in which this may be done is by feeding. We are all well aware that the queen is most active in depositing eggs when the bees are gathering honey rapidly. If we feed small quantities of sugar syrup, or good honey, as soon as the bees can fly in the spring, this will have a tendency to stimulate the queen to greater activity in laying than if no feed is given; but this feeding of honey or syrup is not the only food that is necessary to produce the desired results in rearing young bees. It is a known fact that the brood requires something else for food than honey, and that is pollen. If the bees can fly readily before natural pollen comes, feed Graham flour, rye flour, or something of that sort, as a substitute for natural pollen.

As soon as the weather will permit, open the hives quietly and give them a thorough examination, noting every particular in your apiary register, or make a memorandum on a piece of paper and drop it into the cap of the hive for future reference. When making the examination do not spread the cluster in early spring, but rather crowd them closely together in order to keep as much heat in the hive as possible, putting proper absorbents on top of the frames to allow the escape of excessive moisture. Do not examine the colonies often in early spring, as the brood is very easily chilled, and when once chilled, it will all be lost. The bee-keeper can refer to his memorandum as to the wants and conditions within the hive.

All colonies are more or less reduced by "spring dwindling." Old bees that have been confined all winter, live but a short time when engaged in foraging in the fields. It is therefore very necessary that this loss is replenished at the proper time, or the colony will be deprived of a field-force when it is most needed. Many bees are lost by venturing forth on cold, cloudy days, and being overcome with cold they can never reach their hives again. This might be avoided, to some extent, by darkening the entrance to the hive. Colonies wintered on the summer stands are less liable to "spring dwindling" than those wintered in a bee-house or cellar. Colonies that were wintered in cellars should not be put out too early, as more injury will come by being placed out too early than by remaining in dark quarters. When natural pollen comes it is early enough to put bees out of the cellar, if they have had proper flights during the winter.

One of the most important objects is to get the colonies strong by the time the honey flow comes, so that the bee-keeper may have many worthy servants to garner the precious sweets which nature yields for the benefit of mankind.

Colonies, when weak, may be built up by taking frames of brood from strong colonies, but great care must be exercised that the brood does not become chilled, and a strong colony made weak on account of the mismanagement of the operator. The brood must not be spread too early in the spring, as spring weather in this latitude is very uncertain, and dire results may follow. When the honey-flow begins, all surplus-boxes and sections should be in their places. Much is sometimes lost by the apiarist being too slow in giving proper room before needed.

In all bee-manipulations care must be taken that colonies do not begin robbing. No honey should be dropped around the apiary where bees can have access to it, as this will incite robbing; and when robbing is once begun it is sometimes difficult to control. One method that I have employed successfully is, to close the entrance of the colony robbed so that only one bee can pass the entrance at a time. Another method is to exchange places with the colony robbing and the colony robbed, which throws them all into confusion. Each apiarist doubtless has a particular management of his own, but he may improve by the advice offered by his fellow-bee-keepers. Let us each, then, observe carefully and note the facts developed by our experiments and report them for the benefit of others.

Wabash, ♁ Ind.

OUR CLUBBING LIST for 1886.

We supply the **American Bee Journal** for 1886, and any of the following publications, at the prices quoted in the last column of figures. The first column gives the regular price of both. All postage prepaid.

	Price of both.	*Club*
The Weekly Bee Journal	1 00	
and Gleanings in Bee-Culture	2 00	1 75
Bee-Keepers' Magazine	2 00	1 75
Bee-Keepers' Guide	1 50	1 40
The Apiculturist	2 00	1 75
Canadian Bee-Paper	2 00	1 75
The 6 above-named papers	5 50	5 00
and City and Country	2 00	1 50
New York Independent	4 00	3 30
American Agriculturist	2 50	2 25
American Poultry Journal	2 25	1 75
and Cook's Manual	2 25	2 00
Bees and Honey (Newman)	2 00	1 75
Binder for Am. Bee Journal	1 75	1 60
Apiary Register—100 colonies	2 25	2 00
Dzierzon's Bee-Book (cloth)	3 00	2 00
Dzierzon's Bee-Book (paper)	2 50	2 00
Quinby's New Bee-Keeping	2 50	2 25
Langstroth's Standard Work	3 00	2 75
Root's A B C of Bee-Culture	2 25	2 10
Alley's Queen-Rearing	2 50	2 25
Farmer's Account Book	4 00	3 00
Guide and Hand-Book	1 50	1 30

Monthly subscribers will, no doubt, be delighted at the prospect of getting the Weekly for a dollar a year. Believing that they will prefer a Weekly at that price, we shall discontinue the Monthly edition at the end of the present year, and those who have paid for any portion of next year will have credit on the Weekly *pro rata* for all amounts due them on the Monthly.

The Guide and Hand-Book, is a book of ready reference and an encyclopædia of everything desirable to know. As a guide to the home-seeker, it is invaluable. Its contents are partially given on page 768, and will convince any one of its value. We do not think any of our readers can afford to do without it. As a book of ready reference we find it of great value in our library. We will send the Weekly BEE JOURNAL for a year and the Guide for $1.30.

Local Convention Directory.

1885. *Time and place of Meeting.*

Dec. 8—10.—Michigan State, at Detroit, Mich.
H. D. Cutting, Sec., Clinton, Mich.

Dec. 8—10.—North American, at Detroit, Mich.
W. Z. Hutchinson, Sec., Rogersville, Mich.

Dec. 8-10.—Northwestern, at Detroit, Mich,
W. Z. Hutchinson, Sec., Rogersville, Mich,

Dec. 8—10.—S. E. Michigan, at Detroit, Mich.
A. M. Gander, Sec., Adrian, Mich.

Dec. 10.—Tuscarawas Co., at Port Washington, O.
Geo. F. Williams, Sec., New Philadelphia. O.

Dec. 11.—Northeastern Kan., at Hiawatha, Kan.
L. C. Clark, Sec., Granada, Kan.

1886.
Jan. 21.—Champlain Valley, at Middlebury, Vt.
R. H. Holmes, Sec., Shoreham, Vt.

Apr. 27.—Des Moines County, at Burlington, Iowa.
Jno. Nau, Sec., Middletown, Iowa.

☞ In order to have this table complete, Secretaries are requested to forward full particulars of time and place of future meetings.—ED.

SELECTIONS FROM OUR LETTER BOX

Poor Season—Moving Bees.—H. E. Hill, Titusville, ⊸ Pa., on Nov. 11, 1885, says:

A poor honey season in this locality ended about Oct. 15, with a severe frost. For a few weeks previous, and up to that date, the bees worked vigorously on buckwheat and other fall bloom, but the weather has been so as to allow scarcely any flying since. I have moved my bees about ¼ of a mile, and am packing them outside as I move them. The weather has been so favorable that I think I have sustained no perceptible loss of bees by moving them.

Small Hives vs. Large Hives.—12—D. A. Fuller, (60—80), Cherry Valley, ♁ Ills., on Nov. 20, 1885, writes:

The articles on "Small Hives *vs.* Large Hives" I have read with much interest. My experience has been only with the 8 and 10 frame Langstroth hive, but it has been very much in favor of the large hive, for the following reasons: 1. The large hive produces larger and stronger swarms with less manipulations. If honey is scarce in the spring, there will always be honey in outside combs for them. If not needed, as was the case last spring, I extract the honey from the outside combs just before the honey harvest, placing them in the centre of the brood-chamber, spreading the combs, and in this way I have 10 frames of brood, which is certainly better than 8 frames. 2. The larger hive gives more room on top for surplus honey, as the closer we can keep the surplus arrangements to the brood-nest the better. While I cannot agree with Mr. Heddon as to size of hive, I think that his surplus super for comb honey is the best and most economical, all things considered. On the 10-frame hive it will hold 32 one-pound sections. I do not see how location can make any difference, as a large swarm is better at any time than a small one, and in selling bees the larger hive always sells first and for the most money. The last winter I wintered 60 colonies out of 65, without any feeding at all, which could not be done in small hives.

Unfavorable Season, etc. — Jno. Nebel & Son, High Hill, ⊶ Mo., on Nov. 20, 1885, write as follows:

Our bees are all packed for winter, with the exception of those that are to be put into the cellar, and they are ready to be put in at any moment when the weather begins to turn wintry. So far the weather has been quite warm, and we have had only two heavy frosts. Bees have a flight every two or three days, and are consuming a great deal of honey, but they have plenty to carry them through the winter. Last fall we put 105 colonies into winter quarters, lost two during the winter, and three perished with "spring dwindling." The remaining 100 colonies we increased to 180, and took 3,000 pounds of extracted and 1,000 pounds of comb honey, 40 pounds being the average amount of honey per colony, spring count. The past season has been very unfavorable; in the spring every thing seemed promising; bees had a a good start; and white clover and basswood had an abundant yield of blossoms, but owing to the wet, cold spell at the time of their blooming the flowers did not yield any nectar. The past two seasons have been trying ones for the bee-keeper in this vicinity, but we hope for better times.

Very Mild Weather—Hibernation.—Joshua Bull, Seymour, ⊸ Wis., on Nov. 23, 1885, writes:

We are having very mild weather for this season of the year, and although it is cool and cloudy most of the time, with some frosty nights, yet it generally thaws again during the following day. My bees are ready for winter, and they seem to invite cold weather by dozing themselves into hibernation. They have not come out to fly much for more than five weeks, although there have been several days that were warm enough for them to do so if they would. On one mild day I opened a hive to see what kept them so quiet, and I found them all clustered closely together, and as still as death. I lifted out some of the frames to examine them more closely, but it took several minutes to get the bees roused up so that they would take wing freely. Now, how far were they from hibernation? I hope they will all wake up and take a good flight yet before winter really sets in.

Ready for Winter—Straw Hives.—Abe Hoke, Union City, ⊶ Ind., on Nov. 23, 1885, says:

Last spring I began with 14 colonies, and this fall I had increased them to 36, but I sold 4, so I now have 32 left, and these are well packed on the summer stands. All have plenty of good clover honey to winter on, except 4 late swarms, and they have plenty of sugar syrup made of granulated sugar. My packing material consists of thoroughly dried sawdust, with which 17 colonies are packed, and 15 colonies have a brick wall on three sides of them, with an air-space of 2 inches on three sides, with 15 inches of fine soft hay on top of them, and a good pine shingle roof over that. All have one-half-inch space over the frames. Twenty-six colonies are in straw hives, 24 being on American frames, and 2 on Langstroth frames. I have no fears as to their wintering, yet it is hard to tell what the result will be. When I was a boy, 50 years ago, I saw round straw-hives, and in the fall their owner would tie some straw at the top end, and place it over the skep; then he would take tough clay and putty every crevice shut, and let them stand so until the next spring, and the bees would be all right. I will prepare one of my hives in the same way this fall. My honey crop was between 600 and 700 pounds this year.

Report for 13 Years.—Lyman Chandler, New London,⊙ Minn., on Nov. 22, 1885, says:

In this vicinity the honey crop of 1884 was an entire failure. The past season we secured less than half a crop, and the market is low. This location is rather a poor one for honey. My report, in short, for 13 years is as follows: Average number of colonies wintered, 35; average number of pounds of honey per colony, about 40; and the average price that I obtained per pound, was 18 cents. I have never lost a colony in wintering.

Poor Honey Season.—J. W. Buchanan & Bro., (10—25), Eldora,⊙ Iowa, on Nov. 22, 1885 write:

We began the season of 1885 with 5 colonies, 2 being in fair condition, and 3 being weak. We bought 5 more in the latter part of April, and have increased the 10 to 25 good, strong colonies, and have taken 250 pounds of comb honey in one-pound sections. This we consider a very poor showing. We shall put 20 colonies into the cellar, and 5 we have packed on the summer stands—one in sawdust, and 4 in chaff. The past season was a poor one in our locality. Basswood bloomed profusely, but it yielded no honey. Our only surplus was from white clover.

What Bees do in Winter.—Henry Jones, (70—97), Chesaning,⊙ Mich., on Nov. 22, 1885, writes:

On page 85, Dr. E. B. Southwick gives the best and most accurate description of what bees do in the hives in winter, that I have ever read or heard. Yet on page 123, Dr. D. C. Spencer asks, "How does he know," and does he *know?* I have waited several months for Dr. Southwick to answer, and as he has not seen fit to do so, I will say that *I do know.* As to how I know: I have seen bees do all the things as described by Dr. Southwick on page 85. I have closely observed and noted their actions every day, and sometimes twice and three times a day, from Nov. 16, 1883 to Jan. 21, 1884, and again from Nov. 1, 1884 to Jan. 13, 1885, and these observations were made with the temperature all the way from 44° above to 26° below zero. If it will be of sufficient interest, I will in a future communication describe how I prepared my bees so as to be able to make these observations, and so that any practical bee-keeper can see what I saw, if he desires. I will also tell what I saw at different temperatures, for there was a wide difference in the actions of the bees at the different temperatures.

[We should be pleased to have Mr. Jones give his proposed description, as it doubtless would be interesting to many.—Ed.]

Good Results.—J. R. Nichols, Danville,⊙ Ind., on Nov. 25, 1885, says:

I began last spring with 28 good and 6 very weak colonies of bees, increased them to 56, by natural swarming, and secured 700 pounds of comb honey, and 1,400 pounds of extracted honey. From one colony that did not swarm, I took 256 pounds of extracted honey, and left a plenty for them to winter on.

Bees Ready for Winter.—Wm. Anderson, Sherman,⊶ Mo., on Nov. 22, 1885, says:

My bees are well prepared for winter. They have plenty of honey, so very little if any feeding will be required. My loss was very great last winter. I have 40 colonies snugly packed for winter, and the rest of my colonies are on the summer stands. I shall wrap them up well for winter, as I think it is foolish to go to the trouble of increasing the number of colonies during the summer, and then let them winter as best they may. My honey yield was good this year, but not so good as I expected, as we had plenty of rain here the past summer and this fall.

Success in Bee-Keeping.—Elias Fox, Hillsborough,⊶ Wis., on Nov. 23, 1885, writes:

In the spring of 1884 I started with one colony of Italian bees in a Langstroth hive, and 2 colonies of blacks in box hives; the latter I transferred to Langstroth hives, and Italianized them. I increased them to 21 colonies, by dividing, and I obtained 300 pounds of extracted honey. I lost 3 colonies in wintering, and the remaining 18 were so weak when honey commenced to flow, that they would not have made more than 4 good colonies. This season I increased my apiary to 60 colonies, and took 700 pounds of extracted honey.

☞ The Northeastern Kansas Bee-Keepers' Association will meet at the Court House at Hiawatha, Kans., on Friday, Dec. 11, 1885, at 10 a.m. All interested in bee-culture are invited to attend. L. C. Clark, *Sec.*

Honey and Beeswax Market.

Office of the American Bee Journal,
Monday, 10 a. m., Nov. 30, 1885.

The following are the latest quotations for honey and beeswax received up to this hour:

CHICAGO.

HONEY.—The market is without special change since last quotations. White comb honey in one-pound sections brings 15@16c. A little fancy sells at 17c. in a small way. Dark comb honey sell slowly. Nearly all of the white comb honey comes from the East. Extracted is held firmly at from 6@8c.

BEESWAX.—25c.

R. A. Burnett, 161 South Water St.

BOSTON.

HONEY.—It is selling very well but prices are very low, and we are often obliged to shade our prices in order to make rates. We quote comb honey in 1-lb. sections at 14@16c., and 2-lb. sections at 12@14c. Extracted, 6@8c.

BEESWAX.—30 cts. per lb.

Blake & Ripley, 57 Chatham Street.

NEW YORK.

HONEY.—The market for comb honey is quite active, and the demand nearly equal to the supply. Prices are gradually shading, owing to the fact of many producers selling their entire crop in this city at very low prices, thereby enabling the purchasers to sell low and realize a handsome profit. Large lots have been sold here at 9@10c. for fancy goods. In consequence of no honey coming in from the West, we can see no reason why good prices should not be obtained, except as above stated. Present quotations are: Fancy white 1-lb. sections, 14@15c.; the same in 2-lb. sections, 11½@12½c.; fancy buckwheat honey in 1-lb. sections 11@12c.; in 2-lbs., 9@10c. Off grades 1 to 2c. less.

BEESWAX—Prime yellow, 25@28c.

McCaul & Hildreth Bros., 34 Hudson St.

CINCINNATI.

HONEY.—There is a very slow demand from manufacturers, for extracted honey, with a large supply on the market, while the demand is very good for clover honey in square glass jars. Prices for all qualities are low and range from 4@8c. a lb. Supply and demand is fair for choice comb honey in small sections, which brings 12@15c. per lb.

BEESWAX.—Good yellow is in good demand, and arrivals are fair, at 20@22c. per lb.

C. F. Muth, Freeman & Central Ave.

SAN FRANCISCO.

HONEY.—Choice comb honey is in light supply and is bringing firm figures. There is a fair movement in best qualities of extracted at steady rates. We quote as follows: White to extra white comb, 10@12½c.; amber, 7@8c. Extracted, white liquid, 5¼@5½c.; light amber colored, 4½@4¾c.; amber and candied, 4½c.; dark and candied, 4@4¼c.

BEESWAX.—Quotable at 23@25c., wholesale.

O. B. Smith & Co., 423 Front Street.

CLEVELAND.

HONEY.—The market since our last report has improved very much and there is a good opening for very choice white 1-lb. sections, for which 14@15c. is obtained Our stock of new is very light at present but of the old we have a good supply which we sell at 10@13c. for white 1-lb. sections. Extracted honey is slow at 6@7c. for best white clover and basswood.

BEESWAX.—Very scarce at 20@22c.

A. C. Kendel, 115 Ontario Street.

KANSAS CITY.

HONEY.—The demand for honey begins to sag under the present comparatively high prices, and recent warm weather, though choice 1-lb. sections are still scarce and pretty well taken up at 16@17c. We think, however, that the top is reached and any change will be lower prices. Two-lb. sections are selling at 12½@15c. Extracted, dark, 4@6 cts.; white, 7@8c.

BEESWAX,—22½@25c.

Clemons, Cloon & Co., cor. 4th & Walnut.

☞ The annual meeting of the Champlain Valley Bee-Keepers' Association will be held in Middlebury, Vt., on Jan. 21, 1886.

R. H. Holmes, *Sec.*

☞ The Tuscarawas County Bee-Keepers' Association will hold its fourth semi-annual meeting at Port Washington, O., on Thursday, Dec. 10, 1885. A general invitation is extended. Geo. F. Williams, *Sec.*

Are you Entitled to a pension? You may be and may not know it. If you examine the Guide and Hand-Book you will soon find out. Thousands of things worth knowing will be found in it. The Bee Journal for 1886 and the Guide Book wi' both be sent for $1.30.

WEEKLY EDITION
OF THE
AMERICAN
ESTABLISHED IN 1861
OLDEST BEE-PAPER IN AMERICA
BEE JOURNAL
PUBLISHED BY
THOMAS G. NEWMAN & SON,
PROPRIETORS,
923 & 925 WEST MADISON ST., CHICAGO, ILL.
Weekly, $2 a year; Monthly, 50 cents.

ALFRED H. NEWMAN,
BUSINESS MANAGER.

Special Notices.

SPECIAL NOTICE.—On January 1, 1886, the price of the Weekly BEE JOURNAL will be reduced to *One Dollar a Year*. This we have contemplated for some years, and only awaited the proper time to warrant us in issuing the Weekly BEE JOURNAL at the very low price of *one dollar* a year. That time has now come. We shall continue to improve the BEE JOURNAL, and it will maintain its proud position as the leading bee-paper of the World!

◆

"Don't Stop"—that is what many write to us about their papers, when their time is nearly out. One subscriber says: "This has been a year of disaster, and it is not convenient for me to send you the money now to renew my subscription. It runs out with this month; *but don't stop sending it*. I will get the money to you within three months." Such letters are coming every day, and so for the present we have concluded not to stop any papers until requested to do so.

◆

☞ **Sample Copies** of the BEE JOURNAL will be sent FREE upon application. Any one intending to get up a club can have sample copies sent to the persons they desire to interview by sending the names to this office, or we will send them all to the agent.

◆

Popular Gardening, is a first-class monthly, devoted to Fruit, Vegetables, Flowers, House-Plants, Poultry, etc., about the Home, with Household, Fashion and Young People's Departments, etc. It is bright, able, newsy and entertaining. It comes right down to practical work and things without waste of words. Its contents, engravings, etc., are of superior quality. It is sound and not trashy. There is nothing cheap about it but its price, which is 60 cts. a year. A sample copy free by addressing, Ransom, Long & Co., 202 Main St., Buffalo, N. Y. The BEE JOURNAL and *Popular Gardening*, for 1886, for $1.35.

Honey as Food and Medicine.

☞ To create Honey Markets in every village, town and city, wide-awake honey producers should get the Leaflets "Why Eat Honey" (only 50 cents per 100), or else the pamphlets on "Honey as Food and Medicine," and scatter them plentifully, and the result will be a DEMAND for all of their crops at remunerative prices. "Honey as Food and Medicine" are sold at the following prices:

Single copy, 5 cts.; per doz., **40** cts.; per hundred, **$2.50.** Five hundred will be sent postpaid for **$10.00;** or **1,000** for **$15,00.** On orders of **100** or more, we will print, if desired, on the cover-page, "Presented by," etc. (giving the name and address of the bee-keeper who scatters them).

To give away a copy of "Honey as Food and Medicine" to every one who buys a package of honey, will sell almost any quantity of it.

◆

The Western World Guide and Hand-Book of Useful Information, contains the greatest amount of useful information ever put together in such a cheap form. The printing, paper, and binding are excellent, and the book is well worth a dollar. To any one sending us two *new* subscribers besides their own, with $3, for one year, we will present a copy of this valuable book.

◆

☞ Our rates for two or more copies of the book, "Bees and Honey," may be found on the Book List on the second page of this paper. Also wholesale rates on all books where they are purchased "to sell again."

◆

Preserve your papers for reference. If you have no **BINDER** we will mail you one for 75 cents, or you can have one FREE if you will send us 4 new yearly subscriptions for the BEE JOURNAL.

◆

To Correspondents.—It would save us much trouble, if all would be particular to give their P. O. address and name, when writing to this office. We have several letters (some enclosing money) that have no name; many others having no Post-Office, County or State. Also, if you live near one post-office and get your mail at another, be sure to give the address we have on our list.

◆

When Renewing your subscription please try to get your neighbor who keeps bees to join with you in taking the BEE JOURNAL. It is now *so cheap* that no one can afford to do without it.

◆

The Time for Reading has now come. The long winter evenings can be utilized by reading up bee-literature. We have all the newest bee-books and can fill all orders on the day they are received.

◆

Agents can sell the Guide and Hand-Book like "hot-cakes." Send us an order for five copies (with $2.50) and we will send you the Weekly BEE JOURNAL *free* for a year. This is a *rare* opportunity to get the Weekly BEE JOURNAL without cost!!

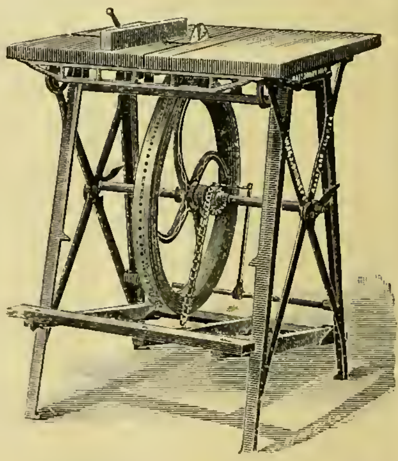
◆

Use the boss Zinc and Leather Interfering Boots and Collar Pads. They are the best.
45D6t

New Saw for Hive-Making.

Learning that the Barnes' Saw has been much improved for next season's operations, we sent to them for a description, so that those who intend to make their own hives might see a cut of it and learn what its improvements consist in. Here is what the manufacturers say of it:

The new Machine is the result of many years' experience and thought in this direction. The old Combined Machine, on the whole, gave good satisfaction to bee-keepers. There were, however, some weak points about the Machine which we desired to eradicate, and we believe that in the new Machine we have surmounted the difficulties. It is stronger and stiffer in every way than was the old Machine, and is capable of a larger range of work.



One of the strongest points of the new Machine is in the matter of the Belt. The belting arrangement is such that friction is reduced to the minimum, and at the same time there is absolutely no chance of the Belt slipping. All will therefore readily perceive that this feature makes the Machine capable of a great deal of work at the least possible expenditure of physical power and exertion.

The Machine embraces, as heretofore, Scroll and Circular Saw, although either of these can be taken independent of the other, if desired.

These Machines are sold on the same terms and at the same price as before the improvements were made, viz: $35.00 for Circular Saw including 1 rip and 1 cross-cut saw. Catalogue free. For sale by

THOS. G. NEWMAN & SON,
923 & 925 West Madison St., CHICAGO, ILL.

Bee-Keepers' Badges at Fairs.

We have some ELEGANT RIBBON BADGES, having a rosette and gold Bee, for bee-keepers' use at Fairs, Conventions, etc. Price 50 cents each, by mail, postpaid.

THOMAS G. NEWMAN & SON,
923 & 925 West Madison St., CHICAGO, ILL.

Advertisements.

HONEY

WE are now in the market, and will be during the entire season, for all honey offered us, in any quantity, shape, or condition—just so it is pure. We will sell on commission, charging 5 per cent.; or, if a sample is sent us, we will make the best cash offer the general market will afford. We will handle beeswax the same way, and can furnish bee-men in quantities, crude or refined, at lowest market prices. Mr. Jerome Twichell, our junior member in this department, has full charge, which insures prompt and careful attention in all its details.

Sample of comb honey must be a full case, representing a fair average of the lot. On such sample we will make prompt returns, whether we buy or not.

CLEMONS, CLOON & CO.,
36A17 KANSAS CITY, MO.

THE HORSE,

By B. J. KENDALL, M. D.

A TREATISE giving an index of diseases, and the symptoms; cause and treatment of each, a table giving all the principal drugs used for the horse, with the ordinary dose, effects and antidote when a poison; a table with an engraving of the horse's teeth at different ages, with rules for telling the age of the horse; a valuable collection of recipes, and much valuable information.

Price 25 cents—in English or German.

THOS. G. NEWMAN & SON,
923 & 925 West Madison St., CHICAGO, ILL.

BEE-KEEPERS' GUIDE;

Or, MANUAL OF THE APIARY.

12,000 SOLD SINCE 1876.

13th Thousand Just Out!

10th Thousand Sold in Just Four Months
3,000 Sold Since May, 1883.

More than 50 pages, and more than 50 fine illustrations were added in the 8th edition. The whole work has been thoroughly revised, and contains the very latest in respect to bee-keeping. It is certainly the fullest and most scientific work treating of bees in the World. Price, by mail, **$1 25.** Liberal discount to dealers and to clubs.

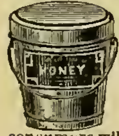
A. J. COOK, Author and Publisher,
1Cly Agricultural College, Mich.

☞ For sale also at the Office of the BEE JOURNAL, at wholesale or retail.

$200,000

in presents given away. Send us 5 cents postage, and by mail you will get *free* a package of goods of large value, that will start you in work that will at once bring you in money faster than anything else in America. All about the $200,000 in presents with each box. Agents wanted everywhere, of either sex, of all ages, for all the time, or spare time only, to work for us at their own homes. Fortunes for all workers absolutely assured. Don't delay. H. HALLETT & Co.
51Aly Portland, Maine.

NEW ONE-POUND HONEY PAIL.



THIS **new size of our Tapering** Honey Pails is of uniform design with the other sizes, having the top edge turned over, and has a bail or handle,—making it very convenient to carry. It is well-made and, when filled with honey, makes a novel and attractive small package, that can be sold for 20 cents or less. Many consumers will buy it in order to give the children a handsome toy pail. **PRICE, 75 cents per dozen, or $5.00 per 100.**

THOS. G. NEWMAN & SON,
923 & 925 West Madison Street, CHICAGO, ILL.

BEE-KEEPER'S HANDY-BOOK.

SEND for Prospectus and new Premium-List.

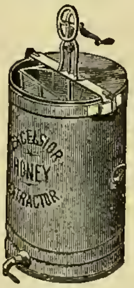
44Atf H. ALLEY, Wenham, Mass.

Given's Foundation Press

THE GIVEN PRESS stands in the **front rank** for manufacturing **FOUNDATION in Wired Frames,** as well as foundation for **SECTIONS.** Without a dissenting voice, all of our customers affirm its superiority. Send for Circulars and Samples.

J. R. CALDWELL & CO.,
1ABtf HOOPESTON, Vermillion Co., ILL.

EXCELSIOR HONEY EXTRACTORS



In answer to frequent inquiries for Extractors carrying 3 and 4 Langstroth frames, we have concluded to adopt these two new sizes. The 3 frame basket is in a can of the same size and style as the 2 frame. The 4 frame basket is in the larger can, with the cone or metal standard for the basket to revolve upon, leaving room underneath the basket for 75 or 80 lbs. of honey. It will be complete, with covers, and in every way identical, except in size, with the $16.00 Extractor, 13x20, which is intended for any size of frame.

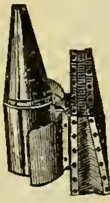
Excepting with the $8.00 Extractors, all the different styles have strainers over the canal leading to the honey gate, and movable sides in the Comb Baskets. The $8.00 and $10.00 Extractors have no covers.

For 2 American frames,	13x13	inches	$8 00
For 2 Langstroth "	10x18	"	8 00
For 3 " "	10x18	"	10 00
For 4 " "	10x18	"	14 00
For 2 frames of any size,	13x20	"	12 00
For 3 " "	13x20	"	12 00
For 4 " "	13x20	"	18 00

THOS. G. NEWMAN & SON,
923 & 925 West Madison Street, CHICAGO, ILL.

Established 1857.
BAKER & CO.
Satisfaction Guaranteed.
DESIGNERS AND
ENGRAVERS ON WOOD
CORNER OF
CLARK & MONROE STS.
FOOT BLOCK.
CHICAGO.
DEALERS IN
ENGRAVERS TOOLS & SUPPLIES.

Send for Circular of the **Rarest Books on Earth.**
(box 14) B. G. STAUFFER, Bachmanville, Pa
12Bly



Bingham Smokers

AND

HONEY-KNIVES.

Send for Circulars.

Bingham & Hetherington,
ABRONIA, MICH.

DRAKE & SMITH,

Successors to A. E. Manum, Bristol, Vt.

MANUFACTURERS of the **BRISTOL Bee-Hive,** the Standard Hive of Vermont, **Section Honey-Boxes,** all sizes, made from White Poplar, (the best timber in the world for honey-boxes), 1-pound boxes a specialty. Clamps, Separators and Wood Sides. Lightning **Gluers, Shipping Crates,** Bee Escapes, Bee Feeders, and Manum's Bee Smokers—all made of the best material and in a workmanlike manner. Send stamp for illustrated Catalogue and Price-List. 46D12t

HEADQUARTERS IN THE SOUTH

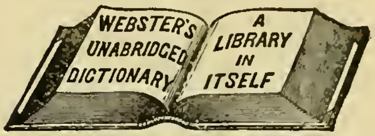
For the manufacture of

Bee-Keepers Supplies

Dunham and Root Foundation a specialty. Italian Queens and Bees from March to November.
☞ Send for my Illustrated Catalogue.
5Ctf **PAUL L. VIALLON,** Bayou Goula, La.

WEBSTER

In various Styles of Binding, with and without Patent Index.



JUST ADDED
A NEW PRONOUNCING

GAZETTEER

OF THE WORLD,

Containing over 25,000 Titles, describing the Countries, Cities, Towns, and Natural Features of every part of the Globe.

GET THE Webster—it has **118,000 Words, 3000 Engravings,** and a **New Biographical Dictionary.** Standard in Gov't Printing Office. 32,000 copies in Public Schools. Sale 20 to 1 of any other series.

BEST Holiday Gift

It is an invaluable companion in every School, and at every Fireside.

G. & C. MERRIAM & CO., Pub'rs, Springfield, Mass.

Friends, if you are in any way interested in

BEES OR HONEY

We will with pleasure send a sample copy of the **Semi-Monthly Gleanings in Bee-Culture,** with a descriptive price-list of the latest improvements in **Hives, Honey Extractors, Comb Foundation, Section Honey Boxes,** all books and journals, and everything pertaining to Bee Culture. *Nothing Patented.* Simply send your address *written plainly,* to
Ctf A. I. ROOT, Medina, O.

(ESTABLISHED 1864.)

BEE-SUPPLIES.

We furnish EVERYTHING needed in the Apiary, of practical construction, and at the **lowest price.** Satisfaction guaranteed. Send your address on a Postal card, and we will send you our Illustrated Catalogue free. **E. KRETCHMER,**
2C12t COBURG, IOWA.

BEE-HIVES, SECTIONS,

FOUNDATION, &c.

WITH a capacity of 7,000 square feet of floor, we claim the best facilities for furnishing Supplies in the Southeast. **OUR NEW FACTORY IS EQUIPPED** with the best and latest improved Machinery, which enables us to furnish our goods "up to the times," and will furnish **all kinds at very reasonable prices.** Parties needing Supplies would do well to see our Price-List before buying. Send for Circular and Price-List. Address,

S. VALENTINE & SON, Hagerstown, Md.
44Ctf

APIARY FOR SALE.

50 **COLONIES OF BEES** in ten-framed Simplicity hives, at **$4.00** each For further information apply to **G. HILLJE,**
44C3t SCHULENBURG, TEX.

BEESWAX.

We pay **22c.** per lb., delivered here, for yellow Beeswax. To avoid mistakes, the shipper's name should always be on each package.

THOS. G. NEWMAN & SON,
923 & 925 West Madison Street, CHICAGO, ILL.

BOND & PEARCH.

(ESTABLISHED 1860.)
163 South Water St., CHICAGO,

COMMISSION MERCHANTS!

Make a Specialty in HONEY.

Consignments solicited. Will make liberal advances on shipments. Refer to Hide and Leather National Bank. 7Btf

HONEY FOR SALE!

Well-ripened, bright BASSWOOD extracted HONEY, at the following low price, for CASH with the order :

100 Pound Kegs (net) each	$8 00
50 " " " "	4 00

☞ Free on board CARS, and no charge for kegs. Shipments prompt.

I also have on hand several thousand pounds of mixed honey, of about equal parts of basswood and fall flowers, which may be called AMBER HONEY, that I will sell as above, at 1 cent less per pound.

Address, **JAMES HEDDON,**
DOWAGIAC, Cass County, MICH.

Ah, There!
THE POULTRY NATION,

A handsomely illustrated 20-page monthly, devoted to the interests of **Poultry, Pigeons and Pet Stock.** It is valuable to the Farmer and Fancier alike, as it treats upon the scientific mating of thoroughbreds for practical purposes as well as for the show-pen. It also contains recipes for the different diseases that poultry is heir to. Try it for a year and you would not do without it for twice its cost.

75 Cts. a Year, Sample Copy 6 Cts.

It is the **Cheapest and Best Poultry Journal** Published in the world! In no way can you invest 75 cents that will give you greater satisfaction than in a year's subscription to **The Poultry Nation.** Address,

46A3t The Poultry Nation, Elyria, O.

Dadant's Foundation Factory, wholesale and retail. See Advertisement in another column.

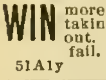
ON 30 DAYS' TRIAL.
THIS NEW ELASTIC TRUSS

EGGLESTON'S
SENSIBLE TRUSS

Has a Pad different from all others, is cup shape, with Self-adjusting Ball in center, adapts itself to all positions of the body while the ball in the cup presses back the intestines just as a person does with the finger. With light pressure the Hernia is held securely day and night, and a radical cure certain. It is easy, durable and cheap. Sent by mail. Circulars free. EGGLESTON TRUSS CO., Chicago, Ill.

45D6t Mention this paper.

FLAT - BOTTOM COMB FOUNDATION,



high side-walls, 4 to 16 square feet to the pound. Circular and samples free.
J. VAN DEUSEN & SONS,
Sole Manufacturers,
Sprout Brook, Mont. Co., N. Y.

WIN more money than at anything else by taking an agency for the best selling book out. Beginners succeed grandly. None fail. Terms free. HALLETT BOOK CO.
51A1y Portland, Maine.

ELECTROTYPES

Of Engravings used in the Bee Journal for sale at 25 cents per square inch—no single cut sold for less than 50c.

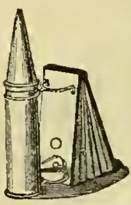
THOS. G. NEWMAN & SON,
923 & 925 West Madison St., CHICAGO, ILL.

Dadant's Foundation Factory, wholesale and retail. See Advertisement in another column.

THE BRITISH BEE JOURNAL
AND BEE-KEEPER'S ADVISER.

The BRITISH BEE JOURNAL is published every Week, at Ten Shillings and 10d. per annum, and contains the best practical information for the time being, showing what to do, and when and how to do it. It is edited by T. W. Cowan, Esq.

The British Bee Journal and our Weekly for $3.50.



Bee-keepers' Supplies,

Standard Langstroth,

Quinby Standing-Frame,

And all other kinds of **Hives,**
MADE TO ORDER,

Quinby Smoker a specialty.

I shall supply anything you need in the Apiary. Send for Illustrated Price List.

W. E. CLARK, successor to L. C. Root,
7A1y ORISKANY, Oneida County, N. Y.

THE INVERTIBLE HIVE!

INVERTIBLE FRAMES,

Invertible Surplus Honey Cases, Entrance Feeders, Top and Bottom Feeders, Hive-Lifting Device, Honey Extractors, Wax Extractors, Comb Foundation, etc.

☞ My new Illustrated Catalogue is now ready, and will be mailed to all who may apply for it. Address,

J. M. SHUCK,
DES MOINES, IOWA.

10A1y

Muth's Honey Extractor,

Square Glass Honey Jars, Tin Buckets,

Langstroth Bee-Hives, Honey-Sections, etc.

Apply to **CHAS. F. MUTH,**
Freeman & Central Ave., - CINCINNATI, O.

☞ Send 10c. for Practical Hints to Bee-Keepers.

Wooden Pails for Honey!

WE can furnish regular Wooden Water-Pails—well painted on the outside, and with 3 iron hoops and a tight-fitting wood cover, at **$2.25** per dozen. They will hold **25** lbs. of honey, and when empty, can be utilized for use as an ordinary household pail.

THOS. G. NEWMAN & SON,
923 & 925 West Madison Street, CHICAGO, ILL.

BEES and HONEY,

OR THE

Management of an Apiary for Pleasure and Profit; by

THOMAS G. NEWMAN.

Editor of the Weekly Bee Journal.

It contains 220 profusely illustrated pages is "fully up with the times" in all the improvements and inventions in this rapidly developing pursuit, and presents the apiarist with everything that can aid in the successful management of the honey-bee, and at the same time produce the most honey in its best and most attractive condition.

PRICE—Bound in cloth, $1.00, postpaid.

☞ **A Liberal Discount to Dealers, by the Dozen or Hundred.**

☞ The Weekly BEE JOURNAL for a year and the book, "Bees and Honey," will be sent for $1.75.

THOS. G. NEWMAN & SON,
923 & 925 West Madison St., CHICAGO, ILL.

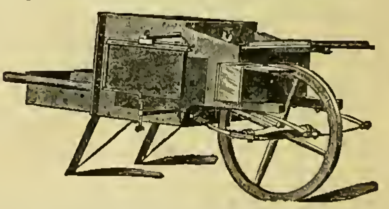
HELP for working people. Send 10 cents postage, and we will mail you *free*, a royal, valuable sample box of goods that will put you in the way of making more money in a few days than you ever thought possible at any business. Capital not required. You can live at home and work in spare time only, or all the time. All of both sexes, of all ages, grandly successful. 50 cents to $5 easily earned every evening. That all who want work may test the business, we make this unparalleled offer : To all who are not well satisfied we will send $1 to pay for the trouble of writing us. Full particulars, directions, etc., sent free. Immense pay absolutely sure for all who start at once Don't delay. Address STINSON & CO.
51A1y Portland, Maine.

CLUB-LIST for 1886 now READY.

C. M. Goodspeed, Thorn Hill, N.Y.

EXTRA CHOICE TESTED ITALIAN QUEEN Given Away. Lowest-priced "Club-List" extant. Any two of the leading bee-papers of America for **$1.75.** Write for it.

SYSTEMATIC AND CONVENIENT,



DAVIS' PATENT HONEY CARRIAGE,
REVOLVING COMB-HANGER,
Tool Box and Recording Desk Combined.

Price, complete, only............$18.00.

THOS. G. NEWMAN & SON,
923 & 925 West Madison Street, CHICAGO, ILL.

---

60 New Style, Embossed Hidden Name and Chromo Visiting Cards, no 2 alike, name on, 10c., 13 packs $1; warranted best sold. Sample book, 4c. L. JONES & CO., Nassau, N. Y.
11A1y

Vandervort Foundation Mill.

6 Inch, Price, $25.00.

It makes the finest extra thin Foundation for comb honey. For Sale by

THOS. G. NEWMAN & SON,
923 & 925 West Madison St., CHICAGO, ILL.

A PRIZE. Send six cents for postage, and receive free, a costly box of goods which will help you to more money right away than anything else in this world. All, of either sex, succeed from first hour. The broad road to fortune opens before the workers, absolutely sure. At once address TRUE & CO., Augusta, Maine.
51A1y

WEEKLY EDITION
OF THE
AMERICAN
ESTABLISHED IN 1861
OLDEST BEE PAPER IN AMERICA
BEE JOURNAL

THOMAS G. NEWMAN,
EDITOR.

Vol. XXI. Dec. 9, 1885. No. 49.

APICULTURAL NEWS ITEMS.

EDITORIAL AND SELECTED.

In Great Britain the autumn has been mild, the temperature being as high as 57° Fahr. The bees have at the last moment had an airing, without which it would have probably proved fatal to many bees, as breeding was carried on briskly during October, wherever there were young queens.

Mr. E. C. Jordan, of Jordan's White Sulphur Springs, Fred. Co., Va., has been appointed by Gov. Cameron as a delegate to the Southern Forestry Congress, to be held on Dec. 16, at De Funick Springs, Fla. This is a judicious appointment. Mr. Jordan has been a great lover of trees all his life, and has kept bees ever since he was 7 years old.

When Renewing your subscription please try to get your neighbor who keeps bees to join with you in taking the BEE JOURNAL. It is now *so cheap* that no one can afford to do without it. We will present a **Binder** for the BEE JOURNAL to any one sending us four subscriptions—with $4.00—direct to this office. It **will pay** any one to devote a few hours, to get subscribers.

Many Thanks are due to our friends for sending us so many *new* subscribers, when renewing their own subscriptions. The reduced price for 1886 has caused quite "a boom," and is a *popular* move in every sense of that word. As we do not wish any one to work for nothing, we have concluded to offer premiums for *new* subscribers for 1886, for in order to compensate for the reduction of our price to $1.00, we should at least *thribble* our present subscription list.

For 1 *new* subscriber for a year (besides your own renewal) we will *present* you either of the following books—25 cents each.

For 2 *new* subscribers—any 2 of the books.

For 3 *new* subscribers—all 3 of them; *or* the Western World Guide & Hand-book.

For 4 *new* subscribers—Bees and Honey, ($1.)

Gaskell's Hand-book of Useful Information—a very handy book of 64 pages.

Architecture Simplified; or, How to Build a Dwelling-house, Barn, etc., giving plans, specifications and cost—60 pages.

Look Within for 5,000 facts which every one wants to know—75 pages.

The Time for Reading has now come. The long winter evenings can be utilized by reading up bee-literature. We have all the newest bee-books and can fill all orders on the day they are received.

The Detroit Convention is now in session. We expect to have a full report of the proceedings in next week's issue. In mentioning the advantages of such meetings, Mrs. L. Harrison, in the *Prairie Farmer*, remarks thus:

> Prominent bee-keepers from Maine to New Mexico, and from Canada to Florida, are expected to be present, and contribute information for the good of all. The most obscure bee-keeper dwelling in a dug-out on the frontier, or in a remote canyon, is benefited by the deliberations at these gatherings. If he wishes to improve his bees, he can easily obtain a queen to be sent to him by mail for a two-cent stamp. This great privilege obtained from the mail service was secured by effort at a meeting of the North American Bee-Keepers' Society.
>
> The Bee-Keepers' Congress at New Orleans is benefiting the fraternity at the South. How to obtain lower rates on bee-keepers' supplies, was up for discussion, and by the successful efforts of Mr. S. C. Boylston, of South Carolina, the scheduling of bee-keepers' supplies are much lower than formerly. So it is seen that those who remain at home, as well as those who attend, are equally benefited.

While the Bee Journal, says Mr. J. E. Pond, Jr., "was comparatively well-worth $2.00 a year, some look at the price without regard to value. The reduced price ought to induce every bee-keeper in the country to subscribe for it, and I hope they will." The editor of the Lewiston, Maine, *Journal* (who is also an apiarist), says:

> The AMERICAN WEEKLY BEE JOURNAL lowers its subscription price for the coming year to one dollar. This is the oldest as well as one of the best publications devoted to the interests of bee-keepers, published. At its present price, no one keeping even one colony of bees, should be without it.

Brick Pomeroy's *Democrat* says:

> It contains more information concerning bees, their treatment, profitable keeping, etc., than it would were it conducted by Old Bee himself. All this for $1.00 per year. Every man who keeps these useful servants, who "work for nothing and board themselves," should subscribe for the BEE JOURNAL, for the information he will obtain therefrom.

In Reference to this item in the BEE JOURNAL of Nov. 25, page 739, "The first bees brought to America were landed at Boston, Mass., in the year 1670," James L. Ellingwood, of St. Joseph, Mo., remarks: Allow me to quote from Bancroft's Colonial History of Virginia, Vol. I, Chap. 5, page 140: "The first cotton-culture in the United States deserves commemoration. In 1621 the seeds were planted as an experiment; and their 'plentiful coming up' was at that early day a subject of interest in America and England. From this year, too, dates the sending of bee-hives to Virginia, and of skillful workmen to extract iron from the ore."

Mr. Ellingwood will please accept our thanks for this scrap of history. Virginia was evidently fifty years ahead of Massachusetts in securing the importation of bees to this country.

Dio Lewis's Nuggets for December comes to hand with its wonted regularity, and this number is the best so far issued. The number of pages of reading matter is increased about one-fourth, and it is, nearly all of it, from the Doctor's own pen.—"NUGGETS" contains the cream of the Doctor's extensive writings on Hygienic and health subjects, coupled with brief, fresh, incisive and racy articles on various sanitary topics. It is published at one dollar a year, by the Dio Lewis Pub. Co., 69-71 Bible House, N. Y.

Bees and Grapes.—Mr. W. W. Bliss, of Duarte, Calif., writes as follows on the above subject, to the *Pacific Rural Press*:

> Knowing of a party who had an apiary in one of the largest raisin-producing sections of the State, I wrote him in regard to the matter. His reply was that he intended to confine his bees in their hives (or at least to try the experiment of doing so) at the time of drying the raisins. The following is his statement in his own words: "I got my wire cloth and everything ready to corral them; then we put down about eight tons of grapes and watched for the result. A few days passed, and as no bees were working on the grapes, I concluded that there was no need to keep them in yet a while. In the meantime McPherson Bros. (the largest raisin-producers in this county) came in and bought up nearly all the raisin grapes in this district. They chose for a drying ground a piece of land adjoining my place and within 400 *yards* of my apiary. Here they spread out 110 *tons of grapes*. I thought, now we will have to look sharp, or we shall have some trouble. But no, not a bit of it; day after day passed and the bees occupied themselves with other duties than 'eating up raisins.' The crop of raisins is now dried and gathered, and the bees have not been confined in their hives one hour. I asked McPherson Bros.' manager if he thought that the bees had done any damage; his reply was, "I believe not."
>
> The fact is, that the bees get the credit of doing what is done by wasps, birds, yellow-jackets, etc. If any one who has a good microscope will take the trouble to examine the mandibles of a bee, and those of a yellow-jacket, they will see how widely they differ. The mandible of a bee resembles the end of a person's finger, round and smooth, and is not adapted to cutting, while those of a yellow-jacket resemble the teeth of a rip-saw more than anything else.

Facts like these are worth more than thousands of theories. Mr. Bliss should get the affidavits of this bee-keeper and McPherson Bros., and send them to Mr. Gustav Bohn, San Bernardino, Calif., for use on the coming suit, on appeal. If the bee-keepers can be made to *awake* to the importance of these matters, there can be no doubt as to the result.

A Law in Nebraska in relation to "foul brood," provides that it shall be unlawful to have in possession bees, brood comb, or honey known to be infected with "foul brood" or any other infectious disease peculiar to bees or honey, or any hive or other receptacle in which any foul brood, diseased bees, or infected honey has been kept. The penalty for violation of this section is a fine of not less than $10 nor more than $100, and imprisonment in the county jail not more than thirty days. Any person having such bees, honey, or receptacle, and failing to destroy it immediately, shall be liable to the same penalty. All persons owning or keeping bees shall cause them to be inspected at least once a year, and procure duplicate certificates as to the condition of the same, one to be kept and one to be filed with the County Clerk. If the inspector thinks that the disease or infection can be removed, he shall so certify officially in his certificate of inspection, and the owner may keep the bees for six months for treatment. Otherwise the owner must destroy them if the infection be not removed at the end of thirty days. The Governor shall appoint an inspector in any county, on request of the State Bee-Keepers' Association, or any other persons interested in bee-keeping residing in such county. The inspector shall receive $2 a day, to be paid by the owner of the bees inspected.

QUERIES

WITH

REPLIES by Prominent Apiarists.

Constructing Chaff Hives.

Query, No. 168.—Suppose the outside of a chaff hive is made of ⅞-inch lumber, then a 1-inch air-space, and then a chaff-space. Would it be better with an air-space and a chaff-space than a chaff-space alone? If so, should the air-space be next to the brood-chamber, or outside? How much of a space should be filled with chaff?—M. M., Iowa.

I am not sure but a dead-air space is as good as a chaff-space, and two would be better than one.—G. M. Doolittle.

I should have only the one chaff space, and the wider this is the safer, I presume. I have yet to see the chaff hives that stand all our winters here in Michigan. I am not a chaff hive bee-keeper, and so I am not an authority on such hives—A. J. Cook.

Yes, so far as retaining the heat is concerned. It may not be important, but I should put the chaff next to the bees. If you mean how large a space, I should say 4 inches of chaff in thickness; the whole space should be filled with chaff.—W. Z. Hutchinson.

In my own experiments I have found a dead-air space alone fully as safe as where chaff is used. I prefer the inner wall of a double-walled hive to be not over ⅜ of an inch thick, whether chaff or a dead-air space is used. Space forbids my giving an explanation, but I believe the dead-air-space plan is in accordance with correct scientific principles.—J. E. Pond, Jr.

We think this is rather too much of an expense and an additional weight, although the chaff hive is better than a single-walled hive. We should use either the air space alone or the chaff alone. Make the chaff 2 or 3 inches thick.—Dadant & Son.

In a hive constructed as stated, the air-space will prevent the accumulation of frost on the sides and cover of the hive where top ventilation is given. It would therefore be better, but the air space must be outside of the chaff. Three inches for chaff space closely packed would be sufficient. With exclusive bottom ventilation I do not think such construction would be an advantage.—G. L. Tinker.

I do not think that a careful test would show any material difference between dead-air and chaff, and chaff alone. The chaff is used to make the air dead, when the joints are imperfect. There is no heat in chaff. If I used both in the same hive, I should put the chaff space outside. I would not use any cumbersome double-walled hives. I have tried them thoroughly.—James Heddon.

Size of Entrance in Winter.

Query, No. 169.—The entrances of my chaff hives are ⅜x5 inches. Would this be too large for out-door wintering, when the temperature is from 10 to 20 degrees below zero?—S. J., Canada.

No. I use ⅜x12 inches.—G. M. Doolittle.

I think not. I believe it is a mistake to close the entrance to a very small space, as some do.—G. W. Demaree.

I should say so.—A. J. Cook.

I have not wintered bees out-doors for years, but from what I have read, I should want the entrances as large, if not larger, than ⅜x5 inches.—C. C. Miller.

I think not.—W. Z. Hutchinson.

I think not; at any rate I should prefer them larger rather than smaller. Moisture is the enemy to be dreaded, and can only be guarded against by giving full ventilation.—J. E. Pond, Jr.

If you give upper absorbents or ventilation, the lower ventilation need not be half as much as you say. If there is no escape for moisture above, the bees will need plenty of bottom ventilation. If you use a chaff cushion, an inch of lower ventilation will do, if not clogged up by dead bees.—Dadant & Son.

No. I should leave a board up against the entrance, and bank all up, over and around it, with snow, if there was any, and if not, with hay or straw. When you see that the bees can fly safely, pull the board forward, and after flight put it back.—James Heddon.

The entrance should be made large or small according to the plan of ventilation. For a full colony in a chaff hive out-of-doors, good upward ventilation may be given through an all-wool cushion one inch thick, leaving a vacant chamber over it, and suitable openings through the cover. In this case the entrance should not be over ⅜x3 inches. I want no chaff, leaves or sawdust over the cluster in top ventilation. In a well-packed chaff hive, with no ventilation at all, I want the entrance not less than ¾x8 inches. In this case the super is filled with chaff, etc.—G. L. Tinker.

Convention Notices.

☞ The Tuscarawas County Bee-Keepers' Association will hold its fourth semi-annual meeting at Port Washington, O., on Thursday, Dec. 10, 1885. A general invitation is extended. Geo. F. Williams, *Sec.*

☞ The Northeastern Kansas Bee-Keepers' Association will meet at the Court House at Hiawatha, Kans., on Friday, Dec. 11, 1885, at 10 a.m. All interested in bee-culture are invited to attend. L. C. Clark, *Sec.*

☞ The annual meeting of the Champlain Valley Bee-Keepers' Association will be held in Middlebury, Vt., on Jan. 21, 1886.
R. H. Holmes, *Sec.*

Local Convention Directory.

1885. *Time and place of Meeting.*

Dec. 8—10.—Michigan State, at Detroit, Mich.
H. D. Cutting, Sec., Clinton, Mich.

Dec. 8—10.—North American, at Detroit, Mich.
W. Z. Hutchinson, Sec., Rogersville, Mich.

Dec. 8-10.—Northwestern, at Detroit, Mich.
W. Z. Hutchinson, Sec., Rogersville, Mich.

Dec. 8—10.—S. E. Michigan, at Detroit, Mich.
A. M. Gander, Sec., Adrian, Mich.

Dec. 10.—Tuscarawas Co., at Port Washington, O.
Geo. F. Williams, Sec., New Philadelphia, O.

Dec. 11.—Northeastern Kan., at Hiawatha, Kan.
L. C. Clark, Sec., Granada, Kan.

1886.
Jan. 21.—Champlain Valley, at Middlebury, Vt.
R. H. Holmes, Sec., Shoreham, Vt.

Apr. 27.—Des Moines County, at Burlington, Iowa.
Jno. Nau, Sec., Middletown, Iowa.

☞ In order to have this table complete, Secretaries are requested to forward full particulars of time and place of future meetings.—Ed.

OUR CLUBBING LIST for 1886.

We supply the **American Bee Journal** for 1886, and any of the following publications, at the prices quoted in the last column of figures. The first column gives the regular price of both. All postage prepaid.

	Price of both.	*Club*
The American Bee Journal	1 00	
and Gleanings in Bee-Culture	2 00	1 75
Bee-Keepers' Magazine	2 00	1 75
Bee-Keepers' Guide	1 50	1 40
The Apiculturist	2 00	1 75
Canadian Bee Journal	2 00	1 75
Texas Bee Journal	2 00	1 75
The 7 above-named papers	6 50	5 50
and City and Country	2 00	1 50
New York Independent	4 00	3 30
American Agriculturist	2 50	2 25
American Poultry Journal	2 25	1 75
and Cook's Manual	2 25	2 00
Bees and Honey (Newman)	2 00	1 75
Binder for Am. Bee Journal	1 75	1 60
Apiary Register—100 colonies	2 25	2 00
Dzierzon's Bee-Book (cloth)	3 00	2 00
Dzierzon's Bee-Book (paper)	2 50	2 00
Quinby's New Bee-Keeping	2 50	2 25
Langstroth's Standard Work	3 00	2 75
Root's A B C of Bee-Culture	2 25	2 10
Alley's Queen-Rearing	2 50	2 25
Farmer's Account Book	4 00	3 00
Guide and Hand-Book	1 50	1 30

Honey as Food and Medicine.

☞ To create Honey Markets in every village, town and city, wide-awake honey producers should get the Leaflets "Why Eat Honey" (only 50 cents per 100), or else the pamphlets on "Honey as Food and Medicine," and scatter them plentifully, and the result will be a demand for all of their crops at remunerative prices. "Honey as Food and Medicine" are sold at the following prices:

Single copy, 5 cts.; per doz., **40** cts.; per hundred, **$2.50.** Five hundred will be sent postpaid for **$10.00**; or **1,000** for **$15.00.** On orders of **100** or more, we will print, if desired, on the cover-page, "Presented by," etc. (giving the name and address of the bee-keeper who scatters them).

To give away a copy of "Honey as Food and Medicine" to every one who buys a package of honey, will sell almost any quantity of it.

Preserve your papers for reference. If you have no **BINDER** we will mail you one for 75 cents, or you can have one FREE if you will send us 4 new yearly subscriptions for the Bee Journal.

CORRESPONDENCE.

Explanatory.—The figures BEFORE the names indicate the number of years that the person has kept bees. Those AFTER, show the number of colonies the writer had in the previous spring and fall, or fall and spring, as the time of the year may require.

This mark ⊙ indicates that the apiarist is located near the centre of the State named: ♂ north of the centre; ♀ south; O+ east; +O west; and this ♂ northeast; ⌐O northwest; O⌐ southeast; and ♀ southwest of the centre of the State mentioned.

For the American Bee Journal.

In Memoriam—Wm. W. Cary.

Born in Coleraine, Mass., on February 24, 1815, and died on Dec. 9, 1884.

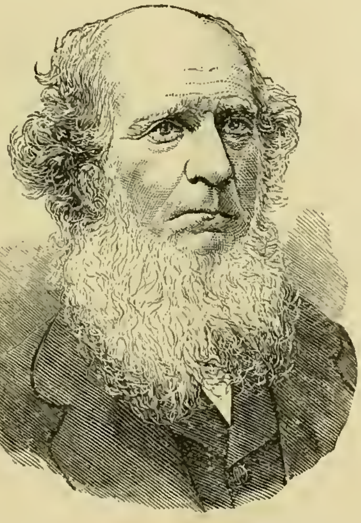
It affords me a melancholy satisfaction to review my long acquaintance with the late Mr. Wm. W. Cary, and to set out more fully than has yet been attempted, some of the important services which he rendered to bee-keeping. To do this seems to me the more obligatory, as he so seldom used his pen for the press that these services might otherwise fail to be put on record.

After testing quite largely my movable-comb frames in West Philadelphia, in the bee-season of 1852, in the fall of that year I went to Greenfield, Mass., to introduce my hive where I was best known as a bee-keeper. Mr. Cary kept some bees in the adjoining town of Coleraine, and was among the first to take an interest in my invention. He was very fond of bees, and more than usually familiar with their habits—and as soon as he saw the working of the hive, he believed that it would make a revolution in bee-keeping. For the six years that I remained in Greenfield, we were in such frequent communication that in furthering my experiments his apiary was almost as much at my service as my own.

In the spring of 1860, I was invited by Mr. S. B. Parsons, of Flushing, L. I., to advise him how best to breed and disseminate the Italian (Ligurian) bees which he had recently imported. Finding that the person who came in charge of most of these bees, could not do the work that was expected of him, I advised Mr. Parsons to secure the services of Mr. Cary. To great energy of character and good business habits, he united long experience in the management of movable frame hives with an enthusiastic desire to see the introduction of these foreign bees made a success. From my intimate acquaintance with him, I could further assure Mr. Parsons that with all these requisites for the position, he possessed in as large a degree as any one I had ever known, that "highest fidelity" which Columella, nearly 2,000 years ago, declared to be an essential qualification for the superintendence of an apiary—and which he thought was very rarely to be met with. Is it much easier to find that now, than it was then?

Mr. Cary's work in Mr. Parsons' apiary fully justified his selection. While the foreigner, in a separate apiary established by Mr. Parsons, and furnished with just the same facilities for breeding queens, failed to rear enough even to pay for the black bees and feed that he used in his operations, Mr. Cary supplied all the queens needed in Mr. Parsons' apiary, and filled all his numerous orders.

No better proof could possibly be given of the extent and thoroughness of his work, than the fact that 113 queens bred by him that season, were so carefully prepared for shipment under the joint supervision of himself and Mr. A. G. Biglow, that all except two of them were safely carried by Mr. Biglow from New York to San Francisco! Mr. B. had stopped over one steamer on the Isthmus of Panama to give his bees a cleansing flight, and one queen entering the nucleus of another, both were killed. The colonies to which they belonged, when examined on their arrival at California, were each found to have reared another queen.



To appreciate fully the extraordinary success of Mr. Cary as a breeder and shipper of Italian queens, it needs but to be stated that during this very year but few queens came alive, out of the many sent from Europe, and that for years after, a large part of our imported queens either died on the way, or arrived in such poor condition as to be of little or no value. It will be remembered by some of the old readers of the AMERICAN BEE JOURNAL, that Mr. Cary was the first person to send a queen across the ocean, in a single-comb nucleus, with a few workers. She was consigned to my lamented friend, Mr. Woodbury, of Exeter, England, and reached him in excellent condition. Those who now receive the queens which are sent by mail from Europe, and even from Syria, should bear in mind that only after many and costly experiments has such admirable success been secured.

After his splendid achievements in Mr. Parsons' service, Mr. Cary greatly enlarged his own apiary, and placed himself in the front rank of reliable breeders of Italian queens.

When Dr. E. Parmly, of New York, imported a number of Egyptian queens, he entrusted them to Mr. Cary, having, as I know, as strong confidence as myself in his sagacity and fidelity. Mr. Cary first called my attention, in his own apiary, to the inferior appearance of the comb honey of those bees. It was capped in such a way as to look like honey damaged by "sweating"—so-called—after being kept in too damp a place. He was also the first to notice that Egyptian bees in extending their combs, built their lower edges almost perfectly square throughout their whole length—in marked contrast to the way in which black bees build them—and improving in this respect even upon the Italians. Although I imported the first Egyptian queen, Mr. Cary had the largest experience with this variety, and after a fair trial we both discarded them as very much inferior to the Italians.

While Mr. Cary was a great enthusiast in bee-culture, and always ready to accept every discovery and improvement, he was not carried away by plausible novelties or conceits. When near him, I always took peculiar pleasure in communicating to him all matters that from time to time were engaging my attention, and our occasional meetings in later years were highly prized. He seldom failed to detect any flaw in what was submitted to his judgment, and his deliberate "yes" or "no" had greater weight with me in bee-matters than that of almost any other person.

Mr. Cary's location was inferior in honey-resources to those who in this country have achieved the greatest pecuniary success from the keeping of bees; he was also quite lame from an accident in his youth, yet notwithstanding these and other obstacles, he built up gradually a large apiary. He was not only a strictly honest man, but a highly honorable one in all his dealings; and in cases of doubt he made it his rule to give his customers the benefit of that doubt, instead of claiming it for himself. Like myself he had the help of an only son in the management of his business, but happier in this respect than myself, he was not called to lament his premature death.

Mr. Cary's interest in bees ceased only with his life. A few weeks before his death he was able to be out in his apiary, where he witnessed with much pleasure some novel arrangements for the safe wintering of a colony in the open air.

Samuel Wagner, Moses Quinby, Richard Colvin, Adam Grimm, Roswell C. Otis, Wm. W. Cary—they have all passed away! And probably no one knows better or appreciates more highly than their old friend who still survives to honor their memories, how much their various labors contributed to the splendid success of the movable-frame principle in America.

L. L. LANGSTROTH.

Oxford, O., Nov. 10, 1885.

For the American Bee Journal.

Small Hives vs. Large Hives.

CHAS. DADANT.

In his reply to my article on page 662, Mr. Hutchinson, on page 714, insists upon the idea that "success depends upon producing the largest amount of honey with the least expenditure of capital and labor." Of course every bee-keeper will accept this maxim. But Mr. Hutchinson adds: "One man with few hives and many manipulations (labor) may secure 1,000 pounds of honey; another man, with twice as many hives, and with less labor, may secure only the same amount of honey, and yet make more profit." This brings me back to my computations, which Mr. Hutchinson seems to have forgotten. The bee-keeper with 60 hives has more capital engaged than the man with 40. This Mr. Hutchinson will not deny. But the bee-keeper with 60 small hives will have 100 per cent. of swarms, and will need at least 60 more hives in which to hive his swarms; while the bee-keeper with 40 large hives will need only 10 more hives at most. If the 60 hives are valued at $2.50 each, and the 10 large ones at $3 each, the bee-keeper with small hives will have to disburse $120 more than the man with large hives. As to the manipulations (labor): The bee-keeper with 60 hives will have 180 surplus cases to give his colonies, while the apiarist with 40 large hives will have but 120 large cases, or one-third less work.

Mr. Hutchinson says that my calculations on the number of bees crowded on every comb, is not right; since I did not notice that he places surplus cases on his hives. But does he think that we neglect to do the same? Therefore the bees are crowded in the same ratio, on our 12 combs, as are his bees on his 8 combs.

His bees swarm after filling a case and the third of another; but, as there are not enough bees remaining in the old colony to fill these cases, he removes them and gives them to the swarm. Is not that an increase of work?

Our bees, in large hives, do not swarm as much, and we are spared the time of hiving the swarms, and of transferring the cases from one hive to other. Besides, a colony which swarms loses time in preparations, in hanging on the tree, etc. There is about one day of work lost in the best season for harvest. We have to put that in the account, for there is a loss of honey. Mr. Doolittle, on page 709, says that his bees gathered 10 pounds per day last season.

But, says Mr. Hutchinson, although our bees have 10 combs after swarming instead of 8, we contract "so far as the egg-producing power is concerned. We now have two queens." Let us see. The honey harvest generally does not last more than 3, 4, 5, and occasionally 6 weeks, or 42 days. After the bees of Mr. Hutchinson's swarm, have filled a case and the third of another, or after about 3 weeks of harvesting, the young queen will begin to lay about 12 days, on the average, after the swarming; then if the harvest lasts 42 days, she has only 9 days to lay before the harvesting is done; but as the hive has remained without a laying queen for 12 days, the new queen is not crowded at all, since 2,000 bees have hatched every day during these 12 days; or if she is crowded by the honey harvested, there is comparatively more honey in the brood-chamber of Mr. H's hive than in ours.

After conceding that 60 hives cost more than 40, Mr. Hutchinson adds: "To save this trifling expense, we must incur the risk of having 5 to 20 pounds of the choicest honey stored in the brood-nest." It seems that Mr. Hutchinson's bees do not act like ours, for we have noticed that during the honey harvest, as soon as a bee has left her cell by hatching, the workers hasten to put honey in it. Then the poor queen, although traveling all over the combs, is compelled to lose her eggs, since she is unable to find empty cells to receive them. Of course there will be more honey stored in our 12-frame hive than in Mr. Hutchinson's 8-frame hive; but both kinds of hives will be filled with honey in about the same ratio. If each one of his 8-frame hives contains 14 pounds of honey, or for 60 hives, 840 pounds, our 12-frame hives will contain about 21 pounds each, or for 40 hives, 840 pounds; or the same amount in both apiaries.

Then the increase of profit, that Mr. Hutchinson estimates to get from the narrowness of his hive, is quite imaginary. Yes! we place great stress upon the advantage to be gained by allowing each one of our queens to lay to her utmost capacity. For twenty years our large hives have given us better results than our small ones; and the same results were always obtained where large hives have been tested side by side with small ones. I have the *Bulletin d'Apiculture* for October, and I find in it twelve selections from letters coming from Switzerland, Belgium, France and Spain, praising the large hives, called the "Layen" hives and the "Dadant" hives, showing by comparison that they are more profitable than smaller ones.

But there is another point that I wish to place before the minds of the bee-keepers. The improving of animals is now considered as one of the aims of a good and profitable husbandry. How can you improve your bees, if you do not know the prolificness of your queens? How will you select the best brood from which to rear queens if you allow all your colonies to swarm naturally? Those who use large hives know which queens are the most prolific; which bees are the most peaceful; the best honey-gatherers; the colonies which work sooner in the morning and later in the evening; and which bees know better how to find the honey resources, etc., as their bees do not swarm very much. (We have an apiary on the farm "Champeau of Sonora," which, with between 60 and 75 colonies, gave but one swarm in two years.) As our bees do not swarm very much, we take all the brood to rear queens from our best colonies, and we continually improve our stock of bees.

Those who employ small hives do not know their most prolific queens; and the improving of their stock is out of the question, unless it is done by the replacing of the queens; therefore by a large increase of work. Is that not true?

Hamilton, Ills.

For the American Bee Journal.

Ventilation of Winter Repositories.

JAMES HEDDON.

It will be remembered that some months ago I requested reports regarding the least amount of air with which bees had been known to pass their winter confinement in perfect health. I am sorry to say that I was not able to report on the responses as soon as I should and wished to, and further, that most of those who responded did not seem to understand the request. I had no reference to the ventilation of hives, but to the ventilation of repositories. Many of the letters which were filed in a special box, were inadvertently re-filed by a clerk, and so could not be found without very great trouble. Among those that were preserved, and bear directly upon the subject, is one from Mr. Dwight Furness, of Furnessville, Ind., which relates the case of a neighbor who buried some colonies in the ground, with the hive-covers tightly glued, the hive-entrances blocked tightly, and the earth piled about the hives solidly. They were left until spring, and wintered in fine condition.

Mr. Levi Fatzinger, of Janesville, Wis., gives his very successful experience in keeping his bees in a cellar, winter after winter, and never giving that cellar any ventilation. He lost a part of his bees last winter for the first time, which he credits to the temperature falling to 34°. I also think that was the indirect cause. He had 69 colonies in a cellar about 15x20 feet in size.

Mr. S. J. Youngman, of Cato, Mich., reports an instance where a neighbor dug a hole in the ground about a foot deep, placed a hive over it with a hole in its bottom-board about 4 inches square, adjusted a rough box over all, and packed the space between the hive and box solidly and tightly all around, and the colony, though a light one, wintered perfectly, with no loss of individual bees. He says that they were in a Langstroth hive, and not opened until April 3. The box admitted of no egress or ingress of the bees, and had no entrance. This colony had plenty of air of good quality, I should say, and I mention this report because it borders upon or goes part way into a system that we discussed at my apiary several years ago, but never put into practice. I was going to dig holes 4 to 6 feet deep, with a large post-auger, and place the hives over them upon wire-screen shipping-frames, rather than a bottom-board, then pack with a large box over all, with a way to open an entrance at will, to use in the spring before the packing would be removed. My idea was to furnish air of a temperature of about 42°, from the holes which would reach down into the earth below the frost-line, and at the same time exclude all cold air, and prevent a radiation of the heat of the bees. I have always believed this plan to be scientific, and one which would come nearer insuring successful out-door wintering than any other that kept the colonies on their own summer stands. After all, when we have estimated the cost of boxes, packing and labor, I think a good cellar is not only safer, but cheaper.

Others sent in reports of successful wintering in cellars, with no ventilation whatever, or at least with the cellar closed as tightly as they could close it; but some of them do not give the number of colonies put in. I hope that many experiments will be made and reported during the coming winter and spring.

My own apiaries, which now contain about 400 colonies, have been housed for about three weeks. The old and new cellars in our home apiary contain about 275 colonies, and a filled house above ground, at Glenwood, Mich., has about 130 colonies in it. More than half of the colonies are supplied with natural stores only, the rest being furnished with stores that are all or in part sugar syrup. The following reasons indicate why I did not resort to supplying all with more or less sugar stores, as I intend to do in the future:

1. My last winter's loss left me so many combs to cover with bees, that I worked my apiaries almost entirely for extracted honey. This and lack of time prevented practicing contraction (my favorite comb-honey system) with a majority of the hives, and so most of them came out in autumn with plenty of honey in the brood-chambers, which must be removed if I were to feed them syrup.

2. I desired to make some tests upon a comprehensive scale, regarding temperature *vs.* food, as causes of bee-diarrhea. I wish to know more of their relative effects.

3. With over ten tons of honey unsold, and not knowing when it might be, the purchase of so large an amount of sugar as would be required to feed all, was more than my pocket-book could stand.

My honey seems to be exceptionally clear this season, and I have hopes that the bees will winter fairly well on natural stores, where the temperature is kept high enough.

SMALL HIVES VS. LARGE HIVES.

I have read with pleasure Mr. Dadant's able article in reply to mine, on this subject. We cannot see alike regarding this matter, and we have now had our say, enjoyed the amicable and, I hope, not useless discussion, and perhaps set others to thinking upon the subject, which will tend to enable us all to sooner arrive at the truth. We can now do nothing better than to leave it to the future experiments of the many.

Dowagiac, ♀ Mich.

For the American Bee Journal

Amount of Honey Gathered by a Bee.

17—G. M. DOOLITTLE, (40—95).

Although the subject of how much honey one bee may gather during its life-time may have no very definite bearing upon the dollar-and-cent side of apiculture, still such an item may be made of interest to us if we look at it from the right stand-point. That one bee cannot gather 100 pounds of honey is one of the reasons that more than one bee is required in a hive, and because one bee cannot gather that amount, nor one-ten-thousandth part of it, is the reason that the apiarist desires a large number of bees in his hives at certain seasons of the year. Some tell us, "keep your colonies always strong," just as though a large number of bees in a hive at all times of the year was a thing of great value. But right here comes in another side to this "gathering" question.

I have just said that one bee could not gather one-ten-thousandth part of 100 pounds of honey. My reason for so saying being that in this locality we do not have a yield of honey lasting through the length of life allotted to an individual bee, while many bees, yea more than one-half of those which are reared under the most skillful management, never add an ounce to the surplus. If every bee reared could have a field of honey placed before it in which to labor, then the motto, "Keep colonies always strong," would be the right one; but inasmuch as this cannot be, and as bees at all times must be consumers, no matter whether producing or not, I cannot see the philosophy of having a colony strong in bees at such seasons when of necessity they can only be consumers. Thus right here comes in another factor in this question, which is the field or supply of honey. In reality we must begin with the field, or in other words, place that first, for without the field or honey-flow we have no use for the bees.

With a continuous and uninterrupted honey-flow within two miles of the hive, during the time which a bee lives, I think that a bee might easily gather one ounce of nectar, which would take only 1,600 bees to gather 100 pounds. Of this amount it would take at least 25 pounds to supply the wants of the colony during the time the bee was living, and unless the nectar was thicker than we get it here, it would take 3 pounds of this nectar to make one pound of honey. So then we should have 25 pounds of honey as the product of 1,600 bees during their life with an uninterrupted flow of nectar. While this might be possible, yet there are two things which make it improbable, the first being, as already stated, that the honey-flow does not continue long enough, and the second, that the yield would not be sufficient within two miles of the apiary so that the bees could work to the best advantage. When all is just right, a few bees will do almost wonders as will be seen by the following:

In 1871 I had a colony which on May 25 I estimated to contain 4,000 bees. This estimate was made by counting all the bees on a given surface of comb, and then dividing the amount of comb covered with bees by the space counted, when the quotient was multiplied by the number of bees counted on the first surface. The next day was a fine one, and apple trees were yielding honey as well as I ever saw them; at 7 a.m. the bees began to go to work, and at 8 a.m. I found that on an average 60 loaded bees were going into the hive each minute. One was caught and killed, which I found upon dissecting, had a fair-sized drop of honey in the honey-sac. By a careful estimate and weighing I found that it would take about 3,600 such bee-loads to make one pound, so I concluded that 4,000 bees were good for the gathering of one pound of nectar each hour, besides caring for the interior of the hive.

Before a bee had left the hive in the morning, I had weighed the same so that I could tell when night came, how much the colony had gained. They worked right along at the average rate of 60 per minute until 4 p.m., when they began to slack up, and at 5 p.m. all had quit work for the day, as the sun had gone back of a cloud soon after 4 p.m. At dusk that night I weighed the hive again, saying as I did so, that if my estimate was correct, it should weigh 8 pounds more than it did in the morning. I found that it weighed 8 pounds and 9 ounces, thus showing that I was not far out of the way. But what was a great surprise to me was that when weighed the next morning, I found that 8 pounds and 9 ounces gain had gone down to 3¾ pounds, thus showing that the nectar just from the flowers was not all honey by any means.

After this I became infatuated with the idea that there could be as much honey obtained from apple blossoms as from basswood, if I could only get the population of the hive up to 40,000 instead of 4,000; so I began trying to get my bees strong early in the spring, but after an entire failure of apple honey for the next three years, on account of cold, rainy weather, I gave the matter up, only trying to get the bees strong, so as to take advantage of the generally good weather in the basswood harvest, as we have but little white clover here.

The point I wish to make is: First, we have the field or location we are in, of which we should have a thorough knowledge; next, we have the bees to get in large numbers just in time to take advantage of the main honey-flow of our field; and third, that a bee is of little value as a honey-gatherer only as it can be placed on the field of action in just the right time. In this way the quantity of honey which a bee can gather in a life-time becomes of interest to us, that we may work assiduously to have that life-time come when our field is yielding honey.

Borodino,⊙ N. Y.

Farmers' Advocate.

Our Honey Market.

G. B. JONES.

Next to its production, the sale of our honey is the important consideration. Our market must be established by our own efforts, and rests with ourselves to make it good or poor. There is only one way to create a demand for our produce, and that consists in making it attractive to the eye, pleasant to the taste, wholesome, and undoubted as to its purity and genuine quality. Just how our honey shall be made attractive must, of course, be decided by each producer in accordance with his own taste and ideas; but a few hints may be of service to beginners.

For instance: Whether honey be packed in glass or tin, it should have a label peculiar to itself—one which, if possible, will bespeak at sight the richness and purity of the goods themselves. The labels for glass packages should be small, as no label can be made to look as nice as the honey itself; but those for tin vessels should be large.

To make honey pleasant to the taste it must be well ripened. Each variety must be separate, and have its own distinctive flavor retained. It must be clear and clean. This will also make it wholesome.

As a mark of its purity, the producer's name should appear prominently upon the label. When the producer is sufficiently well known, this alone is a warrant for the reliability of the honey he sells, and much is already accomplished towards the establishing of his market; but when he is not well known he has much to contend with in these days of adulteration and unfounded suspicion. He should sell his honey only to those who know him, and to grocers who are considered reliable and whose word is sufficient to sell what they recommend. His chief effort should be to sell to those whom he knows are competent judges.

A very important point in working up and holding a market consists in the uniformity of the package and label used. Having once adopted any special package and label, it is best to continue it persistently. Consumers soon become accustomed to it, and will recognize it as Mr. So-and-So's honey, without reading the name, and having bought a package of it, they will, if pleased with it, come for another of the same.

Our first attention should be paid to the home and local markets. Let us sell all we can near home, and there only, till we can sell no more; and then let us gradually extend our limits until we begin to ship to remote, and lastly, to foreign markets. Only by beginning at home shall we make a success of it; for the home and local markets always pay the best.

Never force honey upon the market too soon. As long as there are small fruits, cheap or plenty of apples, people do not want honey, and will buy it only at ruinous prices. Wait until small fruit is gone, apples are dear, and people are tired of fruit anyway, and do not want to open their preserves "just yet," then your time has come to offer them a change in the shape of some delicious honey; and see if they do not "jump at it," and pay good prices.

Brantford, Ont.

For the American Bee Journal.

California Bee-Notes.

J. D. ENAS.

A year like the past takes all the conceit out of one, and makes bee-keepers feel the bottom of their pockets. I know of many who did not get a pound of surplus honey the past season. Some with a small number of colonies, and in a good locality, did a fair business in extracted honey, and in one or two instances, some did well in comb honey. One party wrote me that 30 colonies gave a surplus of 100 pounds of extracted honey per colony; another, with one colony in the spring, lost the first swarm, but obtained 3 swarms and 250 pounds of comb honey in sections. His colonies are strong now, and were working on alfalfa in November. They are still storing some honey. Of course these are exceptional cases, and near where irrigation is the practice of the locality.

Napa county generally fares better than the average, in an extra-dry year, but this year it was also an exception. Our crops were all short of maturity. In the hills, in June, all the pastures were as bare as they usually are in October. We had no fall flowers, consequently the hives are light, and queens have stopped breeding. Should we have warm weather after the rains, flowers will be plentiful, and queens will begin laying again.

The following which I wrote for the *Pacific Rural Press*, may interest the readers of the BEE JOURNAL:

It seems that a novelty has been born to mankind. Some parties say that they have actually seen with their own eyes, bees boring into fruit. Of course what a man sees with his own eyes cannot be disputed. The past summer and fall my bees fared very poorly. I had to give them all my surplus (?) extracted blue-sage honey to keep them breeding and to keep them from starving. We had no flowers in the fields since June. The pastures were as bare as they generally are in October. I expected, of course, that when we dried our fruit, the bees would have a jolly feast. So they did for the first two days, but by that time the sun dried up the surface moisture, and coated over the exposed surfaces of the fruit (peaches), and the bees appeared to be disappointed; and the racks were only about 25 feet from about 100 colonies of Italian bees that were ready for business in the sweet-gathering line.

How different it was with the yellow-jackets. After the bees left the fruit the yellow-jackets kept at it, and cut and carried away pieces of the fruit as large as themselves, and actually, in some cases, leaving nothing but the peach-skins. The "jackets" were unusually plenty the past season, and made some of their nests in the ground near the trails, where they stung any one in passing. Perhaps we have all the yellow-jackets of the State in our vicinity; at any rate, I think I never saw them more numerous. They would cluster at the entrances of the hives.and catch a bee and try to kill it, and sometimes were successful. Being not so susceptible to the cold as the bees, they would enter the hive of a weak colony in the morning before the bees were flying, steal the stores of the hive, as the bees would cluster close to keep themselves warm, leaving the outside combs uncovered and unguarded, while the "jackets" improved their opportunity. They even penetrated into the room where I have several hundred empty combs, and cut the combs as though the mice had been at them, for the sake of the old pollen stored therein. But I suppose the "jackets" would not do that way in any other county but Napa. I will swear to it (if necessary), because I saw it with my own eyes, and seeing is a solid fact.

In regard to the bees boring into a neighbor's raisins, all our scientific men and learned naturalists have to take a "back seat." They have all the time been laboring under a mistake. It appears to them that bees can bore or puncture fruit. Their tongue is not pointed, but slightly flat at the extremity, and hollow. They lick up and suck the sweets when in a liquid state. Even should they use their jaws for biting they could not cut the skin of the fruit. Langstroth tells us in his book that he experimented with bunches of grapes, where some were pricked and others were perfect. While they emptied those which were punctured, they did not appear to work to any advantage on the sound ones, but left the bunches as soon as the bruised ones were emptied, while they fairly clustered on the imperfect ones, as long as there was any chance of getting anything from them. My experience has been a similar one. In all cases where I have found bees on fruit, I have found that they were not the first trespassers, and if the parties who actually saw bees boring into fruit, had used their sharp (?) eyes they would have made other discoveries, viz., that possibly a stray yellow-jacket had been there, too. They will work quicker than bees, and use their jaws to their better advantage. I learn from an old hunter that they have actually taken a whole deer (except the skeleton and hide) in two or three days' time.

A neighbor has more than an acre of grapes on which he has never seen a ripe grape since he planted them, and they were planted long before any number of bees were in the vicinity. The place is thick with quail while the grapes last. He does not lay it to the bees, either.

I have never seen the bees, to any extent, on grapes, until picking time; then the grapes get more or less broken, and while they are in the boxes, waiting for the wagon, the bees almost swarm on them.

Napa, Calif.

For the American Bee Journal.

Bee-Keeping in Sweden, etc.

HJ. STALHAMMAR.

This year, here in Sweden, has been a poor one for bee-keeping, both as to honey and swarms. So far as it concerns myself, I do not care for swarms—only for honey; but in this country the colonies of bees generally are too few, and so the bee-keeper wants swarms.

THE POLLEN THEORY.

I am indeed astonished that such a clever bee-keeper and close observer as Mr. James Heddon, would insist upon such a theory as pollen being the cause of bee-diarrhea. If it were true, not a single bee would have existed for centuries back. The bees want nitrogenous food as well as carbonic (in winter but very little), because when living—when eating—they wear their organisms, and want to restore them. But how is it when breeding begins in the early spring? Is it then proper to feed them with this food, even then, if the temperature is not warm enough? Why do the bees "dwindle" away in the spring? In the autumn the breeding stops too early, and begins in the spring too late, thus the bees are too old—worn out—they cannot live. Of course the bees want the pollen in the hives, and always having sufficient honey in the frames above them, they will never touch the pollen when not wanting it.

TOP VENTILATION.

Why try to ventilate the top of a hive? Look at a colony in a straw skep, with a hole in its top in which to put a plug. How do the bees arrange it for themselves? They cover with propolis the whole innerside of this skep, and especially every opening around the plug to get rid of any opportunity of ventilation there. If upward ventilation is used, the heated air from the bees will rise and be lost. At the top the bees will have it quite tight and warm. But the hive-entrances should be very large. The colony, if strong, will keep the entrances open; if not strong they cannot keep up sufficient warmth, consequently they will diminish them with propolis.

We have killed more bees by want of air than by cold. When the colonies have young queens and young workers, and the tops and the walls of the hives are very warm, with sufficient stores and plenty of air below, and with no disturbances of any kind, no bees will be lost, however cold the winter may be. I believe that it is impossible to kill bees by cold when not disturbed, and when they have their stores above them, even when placed in hives made of thin boards and without a bottom.

Gothenburg, Sweden.

For the American Bee Journal.

Report for 1884--85.

G. C. GREINER.

The beginning of last winter found us (myself and brother) in possession of about 140 colonies of bees; with the exception of a few nuclei, they were in such condition as we, under common circumstances, expect bees to winter without any serious loss. The continuous cold weather, especially in the latter part of the winter, however, reduced our stock at such a rate that on April 1 we had only 91 colonies left.

The past spring was also extremely cold and backward; the first pollen was brought in on April 21—11 days later than it generally appears—after which our bees were again confined to their hives for weeks at a time. The early fruit-tree blossoms did our bees no good, and when warm weather came at last and clothed the apple trees in their snowy garments, the bloom was of such uncommonly short duration that our bees did not receive very much benefit therefrom. On the contrary, colonies kept dying at a fearful rate, so that on June 9, immediately after apple bloom, the 91 colonies were again reduced to 41. Among these was only one colony in prime condition, about 20 from medium to good, and the balance—one-half of the whole—from weak to almost nothing; many of these latter we did not expect to be in existence after a week or two.

The outlook for the season had never been so discouraging, and we hardly knew what plan to pursue. Outside of the few colonies we had about 100 hives with their contents of combs left, and to receive some benefit from these we decided to work our bees for increase mainly.

As "there is no loss without some small gain," the departure of our legions insured us a good opportunity to give the combs a thorough looking over; the old and imperfect combs were made into wax, all drone-comb cut out and patched with worker-comb, those combs that were not built clear down and attached to the bottom-bars were also spliced out, and, in short, all combs were made as perfect as possible. Of course all these combs contained more or less honey, as we generally find in such depopulated hives, which would have made the handling very disagreeable, if not impossible, and to get them in good condition we let the bees clean them out. A little shed, which we had built a short distance from the apiary for that purpose, we used for hanging up from 2 to 4 sets of combs at a time, (after uncapping, as would be done for extracting), and replaced them as fast as the honey was carried away. In this way the bees had all the honey they could use, and the result was surprising; even the weaker ones seemed to be trying to outstrip the stronger ones in breeding up. Some instances we noticed where the outside combs of weaker colonies that could hardly cover more than ½ or ⅔ the number of their combs, were nicely filled with eggs.

At first we had some fears that this poor honey, which was sour, watery, bad smelling, etc., might have a bad effect on the bees, but our fears, however, were more imaginary than real, we believe, for our bees are at this date (Nov. 23) in most excellent condition.

It took nearly five weeks to get all our combs cleaned out, which brought us just about to the basswood opening; our colonies were then in such condition that, with the exception of 8 or 10 of the weakest, all presented, upon examining them, a hive full of bees, the combs nicely matched and capped on top, and the balance of the frames full of brood. In this condition, it is our opinion, bees will do equally well according to their capacity, whether the hives contain 6, 8 or 10 frames.

On Sunday, July 12, the first basswood honey was brought in, and for 2 or 3 days it was like a stream of honey pouring into our hives; then, all at once work stopped for 3 or 4 days almost entirely, a feature we never experienced before. The heat was extreme, the hives were fairly black with bees, but very few were flying, and we imagined that the heat had evaporated the honey. We felt somewhat disappointed about that time, and began to fear that another poor season would fall to our lot. But suddenly business was resumed again, and our bees seemed to be bound to make up lost time. They continued for about 10 days, when the basswood failed; after that they worked a few days on buckwheat, but the rainy, cold weather set in and closed the honey harvest for the season.

According to the record kept on each hive, our crop consits of 2,438 pounds of comb honey in two-pound sections, 251 pounds in unfinished sections, and 40 gallons of extracted honey, amounting to 3,169 pounds for the crop.

Among the weaker portion of our 41 colonies were 8 that did not produce any honey nor swarms; they just lived, and it took until the close of the honey harvest to get them in condition for business. Three of the stronger colonies were used for queen-rearing, so that the above amount of honey was the actual product of 30 colonies, or 105⅔ pounds, on an average. We have now, after uniting all the nuclei which we did not consider strong enough for wintering separately, 109 colonies in good condition, the increase being 68 swarms.

The season's achievement, both of honey and increase, figures thus for each of the 33 colonies: Ninety-six pounds of honey and 2 1-16 swarms; this represents a cash value of $19.77, figuring the honey at 12 cents per pound, and $4 for each swarm.

We have also several hundred pounds of honey stored away in brood-combs, which were taken in the course of the season; we keep them for feeding purposes in case of necessity, and do not add them to the crop.

Naples,+o N. Y.

Florida Times-Union.

Bee-Keeping in Florida.

W. S. HART.

Florida, though possessing within her borders all the requisites for successful bee-keeping, is in that, as in many other branches of industry, one of the last States of the Union to have her wonderful resources developed by the magic wand of skilled labor. Not until within the last four or five years has her honey been known in the markets of the North.

To those who know Florida as the "Land of Flowers," of sunshine, of snowless winters, the home of the honey-bee, where no diseases of any kind have ever been known to effect them, it seems strange that skilled apiarists should not have been attracted to her pleasant shores rather than trust their fortunes in Ohio, New York, Michigan or Canada, where many a fine apiary is nearly or quite destroyed, and the hopes of its owner blasted, by the cold and its after effects, each season. How often does the evening's mail bring to the writer the sad story of the Northern bee-keeper, telling of the loss of 20, 50 or 100 per cent. of his bees by "freezing out," starving out at a time when they could not be fed, "spring dwindling," or diarrhea, and expressing the hope that he might soon migrate to this favored State where none of these troubles are known.

It may be supposed by some, as a possible reason for this slow development here, that perhaps our honey is of poor quality, small in quantity or uncertain in its flow, or that the bees, learning that they can get enough to eat at almost any time, get lazy and will not store much surplus; neither of which surmises is true, as can be shown by the experience of the writer who, eight years ago, took home two colonies of bees, since which time he has increased his apiary to 148 colonies, and never until this season got an annual average of less than 130 pounds of extracted honey per colony. The present season has so far given a yield of about 100 pounds per colony, and an increase to the present number from 117, spring count. The season of 1884 I started with 88 colonies, increased to 117, and took a little over 23,000 pounds, or 11½ tons of honey, being an average of 255 pounds of extracted honey, by actual weight, per colony.

My bees have had close attention, and have done better than the average, but I feel sure that there are many locations in the State where much larger crops can be obtained with the same amount of care. So much then for quantity, lazy bees, and the reliability of the crop.

As to the quality of our honey: I could give the highest testimonials from a great number of the leading bee-keepers and honey-dealers of the United States and other countries. The honey from the cabbage palmetto, and the black mangrove blossoms, constitutes the bulk of our surplus crop. The latter is a semi-tropical tree, and does not grow to any extent above the 29th parallel. It is the best honey-producer known to the writer, as its flow of honey is always large, the color fine, and the flavor delicious. It grows along the coast of Southern Florida, where its roots are covered at high tide by salt water, which prevents its being effected by drouth.

In the counties of Dade, Monroe and Manatee, the fine crop from the mangrove is supplemented by one, which, I am told by reliable parties, is almost equally fine and abundant, that is gathered from the wild pennyroyal throughout the winter months. The abundance of these two honey-producers in the before-named counties, gives them, in the opinion of the writer, who has a very large correspondence with bee-keepers all over this and other countries, some of the finest locations for honey-production in North America.

Of course there are drawbacks here as elsewhere. An excess of annoying insects, which are always found in the best honey sections, and the lack of transportation being the principal ones. But insects gradually disappear as the country becomes settled, and as the best locations are close by salt water, all products are easily and cheaply transported to the nearest shipping-point, in one's own boat or lighter. The interior is more free from insects, but the honey-flow is not so abundant, or certain, and the quality not so fine.

One of the peculiarities of bee-keeping in this section is the fact that the bees commence swarming in February or March, and have the job done up in season to build up strong again for the main honey-flow, so that a large increase of bees, instead of reducing the honey crop for the season, largely augments it. As an example, showing that a large increase is not inconsistent with a fair crop of honey, Mr. F. B. Sackett, of Indian River, in 1883, began the season with 6 colonies, increased them to 62 colonies, and by Aug. 1 took 1,234 pounds of honey, leaving the bees plenty for winter stores.

The writer is not well posted as to the advantages of the northwest portion of the State for bee-keeping. Messrs. Alderman & Roberts, of Wewahitchka, in Calhoun county, who probably have the largest apiary in the State, report good crops of honey and liberal increase. They also state that their honey is of good quality.

Hawk's Park,⊙ Fla.

For the American Bee Journal.

A Woman's View of Bee-Keeping.

DR. W. G. PHELPS.

The following is an amusing letter sent to me in answer to a call for "experiences in bee-keeping for the year 1884." It may interest some of the readers of the BEE JOURNAL:

"LANCASTER,○ Pa.

My husband has 28 colonies of bees in fine order, which he is wintering on the summer stands packed in chaff. He has a honey-house where he theoretically does his work, but *practically* my kitchen is his work-room. I am *disgusted* with the whole business. In the fall when comfortably seated for a quiet afternoon's sewing, machine in splendid order, in pops the 'Liege Lord' with a beaming countenance and the pleasing request to sew or allow him to sew some of his chaff cushions. Oh, what a muss! needle broken, machine dirty and carpet littered. No nice, quiet time after all. In the spring when busy with house-cleaning on one of our beautiful balmy days, in he rushes with, 'My dear, please come and assist me to get my sections in order.' When asked to postpone it a day, he replies, 'Oh, I can't, I shall lose hundreds of pounds of delicious honey by the delay.' Again it is the wax-extractor (or distractor) on the back of the kitchen stove on wash and ironing days. Wax, wax, wax, until I 'wax wrothy' and declare war.

"When the hot, sultry days of July come, and perhaps I have gone to my room for a few moments rest to get cool after the heat of preparing the dinner, I am met with the pleasing intelligence that, 'Guess we will extract honey this afternoon.' Then my trouble begins in earnest. Honey daubed from head to foot, bees crawling over everything, and myself almost stifled, until we are compelled to stop, perhaps on account of robber bees.

"So it goes on from day to day for perhaps ten of them. In an unlucky hour, in going from kitchen to apiary, an angry bee 'pops' me between the eyes. Then I have a respite for a few days, or until the swelling has abated sufficiently for me to see. But holy horrors! what do I see then? Why, honey in cellar, pantry, closets, and even the front hall—pans, pails, jars, kettles, everything full. When asked what this means, he blandly replies, 'Honey barrel sprang a leak.'

"Lastly comes the sections of comb honey to be cleaned of propolis, to be labeled, jars to be filled, and so on until I am obliged to go to house-cleaning again to get rid of the muss. If there is a woman aching for any extra household labor, let her insist upon her husband's keeping bees.

CATHARINE FOULK."

"P.S.—Perhaps after all it is proper to add that I do find the extra change that my 'hubby' realizes from his honey crop (quite a sum by the way), sweetens the bitterness of my lot, particularly when he comes back from market with my nice winter bonnet. C. F."

This spicy letter from Mrs. Foulk, though rather adverse to bee-culture, must be allowed to appear in print. If her "hubby" is really guilty of the charges she brings against bee-keeping, he must be put down among the most *bungling* bee-men of the age.

Galena, 6 Md.

For the American Bee Journal.

Selling Extracted Honey.

10—JOHN REY, (25—68).

It is only a few years since I began to produce extracted honey, but I could never get any sale for it (except a few pounds here and there), and I saw that it was unprofitable to produce extracted honey when there was no sale for it. But I at last hit upon this plan: I saw advertised in the BEE JOURNAL, "Honey as Food and Medicine," and the Leaflets, "Why Eat Honey," which I obtained, and every time I sold any honey I would give the buyers one of the pamphlets, "Honey as Food and Medicine," and they would be sure to come again for honey. They would tell me that they never knew that pure extracted honey would granulate. It is impossible to make some people believe, by talking to them, that pure extracted honey will granulate. When they see that the honey is getting thick, they say, "You have been getting a little too much sugar in that honey," etc.; but when you give your customers these Leaflets, and they have it in print before their eyes, they will read it, and discover that pure honey will granulate. They will always come after some more honey, and three out of five will want that which is granulated. I have some customers that wont take it unless it is granulated, when three years ago these same persons would look at it and wonder how much sugar I had put into it.

In 1884 I extracted 600 pounds, and had it all sold before Christmas; this season I extracted 1.300 pounds, and it is all sold now, and I have orders for more. What sold it? Why, the Leaflets, and "Honey as Food and Medicine," of course.

East Saginaw, ⊙ Mich.

For the American Bee Journal.

The Season—Farmer Bee-Keepers.

CHAS. SOLVESON, (40—64).

I have just finished carrying into the cellar 54 colonies of bees, while I leave 10 outside, and packed *a la* Heddon. Nearly all of my bees have been fed sugar syrup, from 5 to 20 pounds each; and after several years of sugar feeding, I can fully endorse Mr. Heddon's views on wintering. He certainly has told us *how to winter bees*.

This has been the poorest season for many years. From 40 colonies in the spring, I have obtained only about 1,000 pounds of honey, half comb and half extracted. White clover, from which we usually get our largest crop, yielded only enough for brood-rearing. The basswood opened on July 15, and the flow of honey from it closed on July 26, with a shower of rain every day excepting two. At that time the season for 1885 ended; for since July 26 bees have been consuming their stores, and unless bees in this vicinity are fed this fall, the losses will be even heavier the coming winter, than they were the last.

With two poor seasons in succession, and the honey so cheap, those who supposed that there was a "fortune," in a half-dozen colonies of bees, are now anxious to "sell out." The advice that "every farmer should keep a few colonies of bees," and that "there is as much profit in a colony of bees as there is in a cow," has done a great deal of harm to bee-keepers. In a good season those "half-dozen-colony bee-keepers" will take their honey to the market and sell it at the *buyer's price.* I have seen it sold at from 7 to 10 cents per pound, and that, too, for honey in sections, and in fair condition. Though it would not last long, the damage done was sufficient to compel those bee-keepers who make it something of a specialty, to ship their honey to large cities, as it is next to impossible to sell honey at a fair price in a market where it has once been sold so cheap. Those bee-keeping farmers could have bought their honey from regular bee-keepers, and saved money by so doing, while they now have lost money. as they now offer to sell their hives (some empty and some with bees in them). They will now say that there is more money in the "cow;" and the sooner this is recognized, the better for all parties concerned.

Nashotah, Wis.

Home and Farm.

Did Bee-Keeping Become a Lost Art?

C. H. LAKE.

If there is any truth in books, to my mind we are many years—yes, ages—behind our old masters, and any one who will take the trouble to look into those old records of "ye ancient days." cannot fail to see that bee-keeping became a "lost art."

I might name the following distinguished ancient writers: Aristochimus, who studied their habits sixty years; Philliscus, a life-time of incessant toil among them in the forest; Prince Frederick Cesi, institutor of the Roman Academy of Sciences; Swammerdam, Maraldi, Reaumer, and many others, of more recent date; such English writers as Butler, Gurney, Mills, Levits, Southern, Remnant, Wildman, White, DeGrau, Rusden, Warden; also those who treat scientifically in their entomological works, such as Lennæus, Poda, Frabricus, Geoffery, Schoffer, Villiers, Resel, De Geer, Fourary, Donavan, Coquebert, Kirby, Latrilla, Rozier and Bazin, in his work published in 1747; Lombard, Berthen, Dutchet, Ducam, Blangy, Della Rocca and scores of others.

Jeddie, in 1665, published his invention of hives for "preserving the bees in taking their honey," and received a patent from King Charles, 225 years ago. I would like to make a few extracts from these early records. I would quote from Col. Johnson, F.R.S., barrister and editor, on the "Russian System of Bee-Management," 1808, which is as follows:

"In Russia and other parts of Northern Europe, honey and wax constitute great sources of private wealth and general trade. A large amount of this honey is obtained from trees in the forests, which, when not hollowed by nature, are scooped out by men for the accommodation of colonies. This is termed the 'Forest System,' to distinguish it from another, consisting of large assemblages of hives, entitling it to the appellation of the 'Camp System.'

"These bee-camps are often removed from place to place, according to the abundance of flowers. A new system of management has been lately introduced into Russia, which has acquired immense celebrity, not only in that country, but in other parts of continental Europe, to the northern portion of which it may perhaps be more especially adapted.

"This Russian system owes its origin and establishment to M. Prokopovitsh, an individual who has devoted more than half his life-time to the subject. His reputation as an apiarist is at present so high as to have enabled him to establish an extensive school for teaching the art of managing bees. His school and dwelling is situated in the midst of a vast garden, in which are found no less than 2,500 hives, and the number of his pupils is never under eighty, who come from all parts of Europe, and remain two years.

The article continues thus: "In studying the characteristics of the queen, he made the discovery that she always kept upon the comb, and never creeps upon any part of the hive. This observation he turned to advantage so as to make the bees assort and dispose their honey in whatever manner he desired it deposited. By discovering a plant pre-eminently rich in honey, he has rendered another service to his country no less important than the one referred to." "In doing this," says a French writer, "he has rendered a service to Europe similar to that conferred by Parminteer, who placed the potato among the number of plants indispensable to the purpose of domestic economy."

The article then describes this plant at length, which is a very interesting production in this age of "new forage," after which it takes up the detailed description of the hive and management. The hive is fully illustrated, and is a movable-frame hive, in which is worked sections, as of the present day—only larger.

A perforated metal "adapter," or honey-board is also shown, "on which the vaneer sections stand." The "reversing" plan is also alluded to as a means of "renewing the combs"—in these words, "reversing the hive not only allows of the perfect renewal of the wax, but furnishes an opportunity of inspecting everything passing within—by means of the movable combs, and at the same time of conducting all the operations at pleasure, thus uniting all the advantages of the two systems of horizontal and vertical section hives—such as the separation of the swarms," etc.

It speaks of "placing dry wax along the top-bar of the frames—before they are set upon the 'adapter'—for the purpose of directing the bees where to construct the combs."

Of the honey thus obtained, it says: "It is of remarkable purity, and may be taken to market in the same frames in which it was originally stored. These may even be packed together in cases and transported in wagons to great distances without doing the least injury to the honey."

Baltimore, ♂ Md.

SELECTIONS FROM OUR LETTER BOX

Bees in the Cellar.—D. G. Webster, Blaine, ♂ Ills., on Nov. 30, 1885, says:

My 84 colonies of bees were placed in the cellar on Nov. 16, but since then the weather has been warm and pleasant. Perhaps I have made a mistake, but they are very quiet, with the temperature at 40°. I am trying one of the "beaten tracks" of one who every time succeeds in wintering bees in the cellar.

Condition of Bees in Winter.—T. S. Bull, Valparaiso, ⊸ Ind., on Nov. 26, 1885, says:

My 130 colonies of bees are all snugly put away in the cellar under my sitting-room. The mercury ranges from 50° to 55° above zero, which temperature I intend to maintain throughout the winter. If necessary I mean to build a fire in the stove, which I have already placed in the cellar with the bees. Any condition in which the bees are placed through the winter, that causes them to starve to death with honey in the hive, is wrong.

Preparing for the Honey-Flow.—J. W. Winder, San Miguel de Jaruco, Cuba, W. I., on Nov. 22, 1885, writes:

I have been in this land—the land that changes winter into spring—thirty days. I can tell but little regarding the people and the country, or of the capabilities of the latter, as I have scarcely been out of the shade of our extensive apiaries (Casanova's) since I have been here. We are getting things into shape for the honey-flow that comes next month. We will run two 6-frame extractors, and after ripening the honey we will put it into casks holding 110 gallons each. We (Mr. A. W. Osburn, A. J. King and myself—a trio of veterans), hope to be able to make a good report of our stewardship, by the first of February, 1886.

Bees in Good Condition, etc.—D. R. Rosebrough, Casey, ⟜ Ills., on Nov. 27, 1885, writes:

I commenced last spring with 35 colonies and increased them to 55, all of which are now in good condition, except 2. White clover was plentiful, but the bees did not gather honey from it as they should have done. I obtained 800 pounds of honey from that source. It blossomed from June 1 until the middle of July. During all the month of August some honey was coming in from blue-vervain and other flowers, so their was no lack of breeding. In September the buckwheat, Spanish-needle and heart's-ease bloom was immense, but the rains and cold weather were quite a serious drawback. On Oct 4, the weather beginning to be warm again, the bees went to work in earnest, and in 10 days they stored 1,200 pounds of nice comb honey. My bees go into winter quarters with plenty of bees and honey. As my bees are mostly young ones, and Mr. Doolittle's are old, we will see which will winter the best. I will winter my colonies on the summer stands, with oil-cloth next to the bees, and with all the sunshine they can get. Last winter I wintered all of my colonies in that way, except one, and I do not look for a worse winter now. I do not fear the cold, if it does not continue too long. Should we have a cold spell for more than two weeks, I intend to heat bricks and place them over the bees. This I consider as the secret of success. When bees are confined too long in one place, we may look for a heavy loss.

Putting Bees into the Cellar.—O. B. Barrows, Marshalltown, ⊙ Iowa, on Nov. 28, 1885, writes:

On page 739, Mrs. L. Harrison says: "By vote of the Northwestern Convention last year, it was decided that November was too soon to store bees." Also, "Last season ours were stored on Dec. 1," etc. "Experience teaches us that it is better to store late," etc. In the fall of 1884, Mr. Asa Pinkerton, who lives in the outskirts of this city, stored in his cellar from Nov. 20 to 27, 106 colonies of bees, of which he took out alive, on March 31 and April 1, 103, and after "spring dwindling" and doubling up some, he had 100 colonies, from which he has obtained 2,450 pounds of extracted and 1,260 pounds of comb honey. Now, how much better would his bees have done if he had waited until some time in December before he stored them?

Bee-Keeping in Texas.—G. Hillje, Schulenburgh, ⊙ Texas, on Nov. 22, 1885, writes:

I started in the spring of 1884 with 20 colonies of bees, and increased them that season to 81 colonies, by natural swarming. My bees swarmed in March, May and June. The horse-mint crop was splendid. From one swarm that was hived on June 1, I took 75 pounds of extracted honey on June 15. I sold 40 colonies, and commenced the season of 1885 with 41, which I have since increased to 80 colonies. In May I had to feed my bees to keep them from starving, but in June I was again busy extracting. This year the horse-mint did not yield so well as it did last year, but the fall crop was indeed splendid; the common ice-plant—sometimes called tobacco-weed—yielded more honey than did the horse-mint. The honey is of an amber color, but it is the thickest honey that I ever saw, and the flavor is splendid. This honey will not granulate. My bees are in very good condition now, they are all strong, and have nearly all the combs filled with honey and sealed over; so I think they will make a good start next spring. To-day the bees are busy gathering pollen from some weeds.

Size of Hives, etc.—8—Fayette Lee, (66—123), Cokato, ⊙ Minn., on Nov. 28, 1885, writes:

In a large hive there is all the room that the queen wants to lay in, and also room to store honey for winter. With such a hive the bee-keeper is not troubled with so much swarming. I do not think much of a hive that is too small in the forepart of the honey season. A 10-frame hive is small enough till the bees swarm, then I want a hive so small that only one-third of the bees can get into the brood-chamber, the balance of them to be found in two upper surplus-cases. I contract the hive by using a division-board, and in 8 days thereafter I stop all second swarms in the old colony. In 5 days more I take out 4 combs and shake off all the bees, put in their stead 2 wide frames filled with sections, and place the 4 combs in the hive of the new colony. In this way I get comb built in the sections in both hives, for the young bees are the comb-builders, and, as a rule, I get as much honey from the old colony as from the new one. Bees swarm too much in 8-frame Langstroth hives. Last season 26 of my colonies in such hives swarmed before one of the colonies in large hives cast a swarm. Basswood being my first honey crop worth mentioning, it will be seen that a large hive is best for me, although most of my hives have 8 frames. Next season I expect to work my apiary for comb honey, and I suppose I will have quite a time with swarming; but I shall give plenty of room on top of the hives, and try to control it, so I can have all the comb built in the sections. I have plenty of bees, and now I want honey. Bee-keepers should use a hive adapted to their locality. I obtained the first premium on Syrian bees, and on comb and extracted honey, this fall. I have sold all my honey (4,000 pounds) in my home market this year.

Any person not a subscriber, receiving a copy of this paper, will please consider it an invitation to become a subscriber to it.

WEEKLY EDITION
OF THE
AMERICAN
ESTABLISHED IN 1861
OLDEST BEE PAPER IN AMERICA
BEE JOURNAL
PUBLISHED BY
THOMAS G. NEWMAN & SON,
PROPRIETORS,
923 & 925 WEST MADISON ST., CHICAGO, ILL.
Weekly, $2 a year; Monthly, 50 cents.

ALFRED H. NEWMAN,
BUSINESS MANAGER.

Special Notices.

SPECIAL NOTICE.—On January 1, 1886, the price of the Weekly BEE JOURNAL will be reduced to *One Dollar a Year*. This we have contemplated for some years, and only awaited the proper time to warrant us in issuing the Weekly BEE JOURNAL at the very low price of *one dollar* a year. That time has now come. We shall continue to improve tho BEE JOURNAL, and it will maintain its proud position as the leading bee-paper of the World!

◆

"Don't Stop"—that is what many write to us about their papers, when their time is nearly out. One subscriber says: "This has been a year of disaster, and it is not convenient for me to send you the money now to renew my subscription. It runs out with this month; *but don't stop sending it.* I will get the money to you within three months." Such letters are coming every day, and so for the present we have concluded not to stop any papers until requested to do so.

◆

The Western World Guide and Hand-Book of Useful Information, contains the greatest amount of useful information ever put together in such a cheap form. The printing, paper, and binding are excellent, and the book is well worth a dollar. To any one sending us two *new* subscribers besides their own, with $3, for one year, we will present a copy of this valuable book.

◆

☞ **Sample Copies** of the BEE JOURNAL will be sent FREE upon application. Any one intending to get up a club can have sample copies sent to the persons they desire to interview by sending the names to this office, or we will send them all to the agent.

◆

Agents can sell the Guide and Hand-Book like "hot-cakes." Send us an order for five copies (with $2.50) and we will send you the Weekly BEE JOURNAL *free* for a year. This is a *rare* opportunity to get the Weekly BEE JOURNAL without cost!!

Honey and Beeswax Market.

Office of the AMERICAN BEE JOURNAL,
Monday, 10 a. m., Dec. 7, 1885.

The following are the latest quotations for honey and beeswax received up to this hour:

CHICAGO.

HONEY.—The market is without special change since last quotations. White comb honey in one-pound sections brings 15@16c. A little fancy sells at 17c. in a small way. Dark comb honey sell slowly. Nearly all of the white comb honey comes from the East. Extracted is held firmly at from 6@8c.

BEESWAX.—25c.

R. A. BURNETT, 161 South Water St.

BOSTON.

HONEY.—It is selling very well but prices are very low, and we are often obliged to shade our prices in order to make rates. We quote comb honey in 1-lb. sections at 14@16c., and 2-lb. sections at 12@14c. Extracted, 6@8c.

BEESWAX.—30 cts. per lb.

BLAKE & RIPLEY, 57 Chatham Street.

NEW YORK.

HONEY.—The market for comb honey is quite active, and the demand nearly equal to the supply. Prices are gradually shading, owing to the fact of many producers selling their entire crop in this city at very low prices, thereby enabling the purchasers to sell low and realize a handsome profit. Large lots have been sold here at 9@10c. for fancy goods. In consequence of no honey coming in from the West, we can see no reason why good prices should not be obtained, except as above stated. Present quotations are: Fancy white 1-lb. sections, 14@15c.; the same in 2-lb. sections, 11½@12½c.; fancy buckwheat honey in 1-lb. sections 11@12c.; in 2-lbs., 9@10c. Off grades 1 to 2c. less.

BEESWAX—Prime yellow, 25@28c.

McCAUL & HILDRETH BROS., 34 Hudson St.

CINCINNATI.

HONEY.—There is a very slow demand from manufacturers, for extracted honey, with a large supply on the market, while the demand is very good for clover honey in square glass jars. Prices for all qualities are low and range from 4@8c. a lb. Supply and demand is fair for choice comb honey in small sections, which brings 12@15c. per lb.

BEESWAX.—Good yellow is in good demand, and arrivals are fair, at 20@22c. per lb.

C. F. MUTH, Freeman & Central Ave.

SAN FRANCISCO.

HONEY.—Choice comb honey is in light supply and is bringing firm figures. There is a fair movement in best qualities of extracted at steady rates. We quote as follows: White to extra white comb, 10@12½c.; amber, 7@8c. Extracted, white liquid, 5¼@5½c.; light amber colored, 4½@4¾c.; amber and candied, 4½c.; dark and candied, 4@4¼c.

BEESWAX.—Quotable at 23@25c., wholesale.

O. B. SMITH & CO., 423 Front Street.

CLEVELAND.

HONEY.—The market since our last report has improved very much and there is a good opening for very choice white 1-lb. sections, for which 14@15c. is obtained Our stock of new is very light at present but of the old we have a good supply which we sell at 10@13c. for white 1-lb. sections. Extracted honey is slow at 6@7c. for best white clover and basswood.

BEESWAX.—Very scarce at 20@22c.

A. C. KENDEL, 115 Ontario Street.

KANSAS CITY.

HONEY.—The demand for honey begins to sag under the present comparatively high prices, and recent warm weather, though choice 1-lb. sections are still scarce and pretty well taken up at 16@17c. We think, however, that the top is reached and any change will be lower prices. Two-lb. sections are selling at 12½@15c. Extracted, dark, 4@6 cts.; white, 7@8c.

BEESWAX,—22½@25c.

CLEMONS, CLOON & CO., cor. 4th & Walnut.

◆

To Correspondents.—It would save us much trouble, if all would be particular to give their P. O. address and name, when writing to this office. We have several letters (some inclosing money) that have no name; many others having no Post-Office, County or State. Also, if you live near one post-office and get your mail at another, be sure to give the address we have on our list.

◆

☞ Our rates for two or more copies of the book, "Bees and Honey," may be found on the Book List on the second page of this paper. Also wholesale rates on all books where they are purchased "to sell again."

System and Success.

☞ All who intend to be systematic in their work in the apiary, should get a copy of the Apiary Register and commence to use it. The prices are as follows:

For 50 colonies (120 pages)	$1 00
" 100 colonies (220 pages)	1 25
" 200 colonies (420 pages)	1 50

The larger ones can be used for a few colonies, give room for an increase of numbers and still keep the record all together in one book, and are therefore the most desirable.

◆

The Guide and Hand-Book, is a book of ready reference and an encyclopædia of everything desirable to know. As a guide to the home-seeker, it is invaluable. Its contents are partially given on page 784, and will convince any one of its value. We do not think any of our readers can afford to do without it. As a book of ready reference we find it of great value in our library. We will send the Weekly BEE JOURNAL for a year and the Guide for $1.30.

Advertisements.

HONEY

WE are now in the market, and will be during the entire season, for all honey offered us, in any quantity, shape, or condition—just so it is pure. We will sell on commission, charging 5 per cent.; or, if a sample is sent us, we will make the best cash offer the general market will afford. We will handle beeswax the same way, and can furnish bee-men in quantities, crude or refined, at lowest market prices. Mr. Jerome Twichell, our junior member in this department, has full charge, which insures prompt and careful attention in all its details.

Sample of comb honey must be a full case, representing a fair average of the lot. On such sample we will make prompt returns, whether we buy or not.

CLEMONS, CLOON & CO.,
36A17 KANSAS CITY, MO.

THE HORSE,
By B. J. KENDALL, M. D.

A TREATISE giving an index of diseases, and the symptoms; cause and treatment of each, a table giving all the principal drugs used for the horse, with the ordinary dose, effects and antidote when a poison; a table with an engraving of the horse's teeth at different ages, with rules for telling the age of the horse; a valuable collection of recipes, and much valuable information.

Price 25 cents—in English or German.

THOS. G. NEWMAN & SON,
923 & 925 West Madison St., CHICAGO, ILL.

$200,000 *in presents given away.* Send us 5 cents postage, and by mail you will get *free* a package of goods of large value, that will start you in work that will at once bring you in money faster than anything else in America. All about the $200,000 in presents with each box. Agents wanted everywhere, of either sex, of all ages, for all the time, or spare time only, to work for us at their own homes. Fortunes for all workers absolutely assured. Don't delay. H. HALLETT & Co
1A1y Portland, Maine.

The American Real Estate Criterion.

A 12-page monthly Real Estate Business and Literary Journal, gives the Real Estate news of the U. S. Enquiries answered FREE by its special correspondents. Liberal advertising rates. Subscription 75 cts. per annum. Sample FREE. Correspondence solicited. THORPE BROTHERS, Publishers, Manning & Penick Bank Building, Chariton, Iowa. 49A1t

HONEY
FOR SALE!

Well-ripened, bright BASSWOOD extracted HONEY, at the following low price, for CASH with the order:

100 Pound Kegs (net) each............$8 00
50 " " " " 4 00

☞ Free on board CARS, and no charge for kegs. Shipments prompt.

I also have on hand several thousand pounds of mixed honey, of about equal parts of basswood and fall flowers, which may be called AMBER HONEY, that I will sell as above, at 1 cent less per pound.

Address, JAMES HEDDON,
DOWAGIAC, Cass County, MICH.

AMERICAN INVENTOR,
A JOURNAL FOR
The Inventor, Mechanic and Manufacturer.
SUBSCRIPTION, $1 PER YEAR.

Each number is replete with articles on Patent Law, Invention, Mechanics, Art, Science, Manufactures, etc.
Agents wanted; liberal pay; write for terms.
Best Advertising Medium of its class.—Send for sample copy and advertising rates.

Address, AMERICAN INVENTOR,
188 West Fifth St., CINCINNATI, O.

Dadant's Foundation Factory, wholesale and retail. See Advertisement in another column.

FLAT - BOTTOM
COMB FOUNDATION,
high side-walls, 4 to 16 square feet to the pound. Circular and samples free.
J. VAN DEUSEN & SONS,
Sole Manufacturers,
Sprout Brook, Mont. Co., N. Y.

PATENTS
CAVEATS, TRADE MARKS, LABELS and COPY-RIGHTS promptly secured for United States and Foreign Countries. Patents Negotiated. INVENTOR'S MANUAL, a 70-page book, showing How to Procure and Sell Patents, sent free. All Patents procured through this Agency described in the AMERICAN INVENTOR AMERICAN PATENT AGENCY,
188 & 190 W. Fifth St., Cincinnati, Ohio.

WIN more money than at anything else by taking an agency for the best selling book out. Beginners succeed grandly. None fail. Terms free. HALLETT BOOK CO.
51A1y Portland, Maine.

Dadant's Foundation Factory, wholesale and retail. See Advertisement in another column.

ELECTROTYPES
Of Engravings used in the Bee Journal for sale at 25 cents per square inch—no single cut sold for less than 50c.
THOS. G. NEWMAN & SON,
923 & 925 West Madison St., CHICAGO, ILL.

Dadant's Foundation Factory, wholesale and retail. See Advertisement in another column.

EVERY MAN who desires to become HIS OWN Printer at a remarkably low original cost, can do so by getting our circular free. New plan; just what firms need. PRINTER
R. L. ZERBE, 188 W. 5th St., Cincinnati, O.

THE BRITISH BEE JOURNAL
AND BEE-KEEPER'S ADVISER.

The BRITISH BEE JOURNAL is published every Week, at Ten Shillings and 10d. per annum, and contains the best practical information for the time being, showing what to do, and when and how to do it. It is edited by T. W. Cowan, Esq.

The British Bee Journal and our Weekly for $3.50.

Bee-keepers' Supplies,
Standard Langstroth,
Quinby Standing-Frame,
And all other kinds of Hives,
MADE TO ORDER,
Quinby Smoker a specialty.
I shall supply anything you need in the Apiary. Send for Illustrated Price List.
W. E. CLARK, successor to L. C. Root,
7A1y ORISKANY, Oneida County, N. Y.

THE INVERTIBLE HIVE!
INVERTIBLE FRAMES,
Invertible Surplus Honey Cases,
Entrance Feeders, Top and Bottom Feeders,
Hive-Lifting Device, Honey Extractors,
Wax Extractors, Comb Foundation, etc.
☞ My new Illustrated Catalogue is now ready, and will be mailed to all who may apply for it. Address,
J. M. SHUCK,
DES MOINES, IOWA.
10A1y

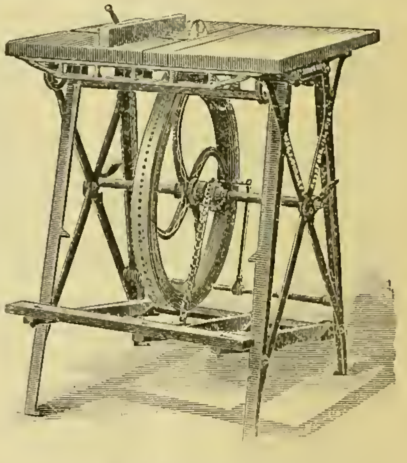
Muth's Honey Extractor,
Square Glass Honey Jars, Tin Buckets,
Langstroth Bee-Hives, Honey-Sections, etc.
Apply to CHAS. F. MUTH,
Freeman & Central Ave., - CINCINNATI, O.
☞ Send 10c. for Practical Hints to Bee-Keepers.

Wooden Pails for Honey!
WE can furnish regular Wooden Water-Pails—well painted on the outside, and with 3 iron hoops and a tight-fitting wood cover, at $2.25 per dozen. They will hold 25 lbs. of honey, and when empty, can be utilized for use as an ordinary household pail.
THOS. G. NEWMAN & SON,
923 & 925 West Madison Street, CHICAGO, ILL.

New Saw for Hive-Making.

Learning that the Barnes' Saw has been much improved for next season's operations, we sent to them for a description, so that those who intend to make their own hives might see a cut of it and learn what its improvements consist in. Here is what the manufacturers say of it:

The new Machine is the result of many years' experience and thought in this direction. The old Combined Machine, on the whole, gave good satisfaction to bee-keepers. There were, however, some weak points about the Machine which we desired to eradicate, and we believe that in the new Machine we have surmounted the difficulties. It is stronger and stiffer in every way than was the old Machine, and is capable of a larger range of work.



One of the strongest points of the new Machine is in the matter of the Belt. The belting arrangement is such that friction is reduced to the minimum, and at the same time there is absolutely no chance of the Belt slipping. All will therefore readily perceive that this feature makes the Machine capable of a great deal of work at the least possible expenditure of physical power and exertion.

The Machine embraces, as heretofore, Scroll and Circular Saw, although either of these can be taken independent of the other, if desired.

These Machines are sold on the same terms and at the same price as before the improvements were made, viz: $35.00 for Circular Saw including 1 rip and 1 cross-cut saw. Catalogue free. For sale by

THOS. G. NEWMAN & SON,
923 & 925 West Madison St., CHICAGO, ILL.

NEW ONE-POUND HONEY PAIL.
THIS new size of our Tapering Honey Pails is of uniform design with the other sizes, having the top edge turned over, and has a bail or handle,—making it very convenient to carry. It is well-made and, when filled with honey, makes a novel and attractive small package, that can be sold for 20 cents or less. Many consumers will buy it in order to give the children a handsome toy pail. PRICE, 75 cents per dozen, or $5.00 per 100.
THOS. G. NEWMAN & SON,
923 & 925 West Madison Street, CHICAGO, ILL.

WEEKLY EDITION
OF THE
AMERICAN
ESTABLISHED IN 1861
OLDEST BEE PAPER IN AMERICA
BEE JOURNAL

THOMAS G. NEWMAN,
EDITOR.

Vol. XXI. Dec. 16, 1885. No. 50.

APICULTURAL NEWS ITEMS.

EDITORIAL AND SELECTED.

Stop and think before you speak ;
It is best, you know.
Haste makes waste, the wrong are weak—
Learn to travel slow.
Do not let a word go forth
From your lips so strong,
That could count of little worth,
Or commit a wrong.

A Pleasant Re-Union occurred at Detroit last week. Many of the prominent apiarists of North America were present, and we think there never was a more enthusiastic gathering of bee-keepers in America. Had the banquet been added, it would have very much resembled the European gatherings.

Mr. Geo. E. Hilton, of Freemont, Mich., has sent us a large photograph of his apiary, which is now placed on the wall of the office of the BEE JOURNAL with many others.

Mrs. L. Harrison, of Peoria, Ills., the most prominent lady-bee-keeper of America, with some 13 other lady apiarists, were present at the Detroit Convention last week. Mrs. Harrison was elected as the Vice-President for Illinois.

Mr. H. Chapman, of Versailles, N. Y., exhibited seeds of a new honey-plant, at the Detroit Convention, and passed around some of the honey to be tasted. Prof. A. J. Cook took some of the seed home with him in order to ascertain its name. Mr. Chapman says that it blossoms after basswood bloom is gone, and that he will plant 5 acres next spring on land worth $100 per acre, and he believes it will pay.

Hon. Edwin Willetts, President of the Michigan Agricultural College, who gave the "Address of Welcome" at the Detroit Convention, was the one who so nobly aided Prof. Cook in his mission to Washington, as a committee from the North American Bee-Keepers' Society several years ago, to get the ruling of the Postmaster General reversed, in order to allow queen-bees to be transported in the mails of the United States. He is a firm friend of apiarists. His address of welcome at the Detroit Convention, will be read with pleasure. See page 790.

The Bee-Pasturage address which was given at the Detroit Convention by the Editor of the AMERICAN BEE JOURNAL, was thus commented upon by a reporter for the Detroit *Tribune* :

> The delights of being a bee-maid or a poetical-appearing youth, and driving the festive bee to and from the pasture each day, were strongly set forth. Encased in a suit of boiler-iron it would indeed be delightful to drive the tender-eyed Jersey-bee to its cell each night.

That reporter seemed to have a vein of *fun*. But that is not strange when it is known that the Convention quite often indulged in roars of laughter, and prolonged applause over some *stinging* remark or *sharp-pointed* reply. Mr. J. B. Hall "carried off the laurels" in that department. His good-natured, but *stinging* criticisms were sometimes received with such uproarious merriment as to be heard on the street from the third floor of the building.

Fire Destroyed 200 colonies of bees, at New Madrid, Mo., on Dec. 6, 1885. They belonged to Flanagan & Illinski, of Belleville, Ills. They have sent us the following statement of the disaster, which their friends will be very sorry to learn :

> We have had a large number of colonies of bees in Arkansas, Lee Co., Mo., for a number of years, but the locality proving to be a poor one, we decided to move them to a much better location, and had them thus far on the route in good order. We had landed them from the boat last evening, and was waiting for the cars to take them to the interior of the State, where we have another apiary in a fine location. When the steamer, "City of Bayou Sara," landed and began discharging her freight, in a moment she was enveloped in flames, and our bees being right at the landing, nearly all of them perished. Only some 80 or 90 colonies were saved out of nearly 300 strong ones, all in double-story Simplicity hives, with frames of comb for extracting.

Insect Wax of China.—Mr. Wm. Muth-Rasmussen, of Independence, Calif., has sent us the following item, which has been going the rounds of the press :

> The British Consular Agent at Chung-King, Mr. Hosie, has made a tour through certain districts of China for the purpose of gaining information concerning insect white wax. He has found the substance to be the product of minute, brown, lice-like insects, which exist, together with a small black beetle, in excrescences or galls attached to the boughs and twigs of an evergreen, called by the Chinese "the insect tree." Early in May these galls are collected and placed on the wax-tree—usually a stump from which rises numerous sprouts. The creatures soon deposit a white coating on the boughs and twigs, which often reaches a thickness of a quarter of an inch in ninety or a hundred days. The branches are then lopped off, and the wax is carefully removed by scraping and boiling. The material is then poured into moulds, and becomes the white wax of commerce, used chiefly for candles.

Mr. Muth-Rasmussen remarks as follows : "As wax is becoming more scarce through the use of the honey-extractor and its increasing consumption for comb-foundation, it is well that its place in other industries can be supplied from other sources, perhaps, as in this case, equally good ; for according to the description, I judge this 'insect-wax' to be almost identical with beeswax." Whatever it may be, if its use for other purposes will relieve the market, it will be well, for bee-keepers themselves are now extensive consumers of wax, and the productions of it is much lessened by the modern management of the apiary.

Two More Numbers will complete the AMERICAN BEE JOURNAL for 1885. Now is the time to renew subscriptions, and send an extra name or two with your own and secure a premium. We have some colored Posters, which we will send FREE, to put up in conspicuous places. We will with pleasure send sample copies to any one who will try to get up a club.

The Essays and Addresses at the Detroit Convention are generally published in full in the Report as given this week. Only very short digests of two of them are given, but they will be published in subsequent numbers of the BEE JOURNAL. We have given all that our space would permit in this issue, even to the exclusion of other matter of general interest, knowing full well that all our readers are anxious to read what was said and done at that very interesting meeting.

New York Apiarists in large numbers were at the Detroit Convention, and they were "a jolly lot" too. President L. C. Root won golden opinions as a "model presiding officer." Canada and Michigan were also well represented by successful apiarists, who were also well informed and fully able to discuss the difficult problems of our pursuit. We point with pride to the printed list of members on page 790, as containing some of the best apiarists of America. There were 10 States and Provinces represented, viz : New York, Massachusetts, Connecticut, Ohio, Canada, Illinois, Pennsylvania, Iowa, Missouri and Michigan. The members were principally in the prime of life, with some older and younger. All were enthusiastic, and it was a happy re-union.

Many Thanks are due to our friends for sending us so many *new* subscribers, when renewing their own subscriptions. The reduced price for 1886 has caused quite "a boom," and is a *popular* move in every sense of that word. As we do not wish any one to work for nothing, we have concluded to offer premiums for *new* subscribers for 1886, for in order to compensate for the reduction of our price to $1.00, we should at least *thribble* our present subscription list.

For **1** *new* subscriber for a year (besides your own renewal) we will *present* you either of the following books—25 cents each.
For **2** *new* subscribers—any **2** of the books.
For **3** *new* subscribers—all **3** of them ; *or* the Western World Guide & Hand-book.
For **4** *new* subscribers—Bees and Honey, ($1.)

Gaskell's Hand-book of Useful Information—a very handy book of 64 pages.
Architecture Simplified ; or, How to Build a Dwelling-house, Barn, etc., giving plans, specifications and cost—60 pages.
Look Within for 5,000 facts which every one wants to know—75 pages.

When Renewing your subscription please try to get your neighbor who keeps bees to join with you in taking the BEE JOURNAL. It is now *so cheap* that no one can afford to do without it. We will present a **Binder** for the BEE JOURNAL to any one sending us four subscriptions—with $4.00—direct to this office. It **will pay** any one to devote a few hours, to get subscribers.

Christmas Numbers are on our desk of Erank Leslie's Illustrated *News*, the *Graphic*, of Cincinnati, O., the New York *Agriculturist*, Vick's Monthly, etc. All of them are elegant and well worthy of patronage.

QUERIES
WITH
REPLIES by Prominent Apiarists.

Moving an Apiary.

Query, No. 170.—What is the best and safest method of moving an apiary about 50 yards, the colonies having been for years, summer and winter, on the same stands, in chaff hives?—Titusville, Pa.

I would refer the querist to page 105, of the Bee Journal for 1884.—James Heddon.

Move the bees after they have ceased flying this fall, and do it carefully.—W. Z. Hutchinson.

I should move them as soon as winter set in in earnest, and at the first flight in the spring they will mark their new location so no loss will occur.—G. M. Doolittle.

I have had no direct experience in this, but I think I should try moving them quietly after they have settled down for winter; then put boards in front of the entrances, and change everything as much as possible in the appearance of the old location.—C. C. Miller.

Move them in the spring after there is no longer any danger of "spring dwindling;" or, if wintered in-doors, move them when taking them out of winter quarters. Shade the entrances with boards, so they will notice that the location is not the same.—Dadant & Son.

If moved at night-fall, the hives turned facing in an opposite direction, and a board placed slanting against each hive over the entrance, they can often be moved at once with no trouble. In some cases the bees will go back, but these can be caught in a box and again at night-fall returned to the hive, when usually they will remain.—A. J. Cook.

I think that there would be a loss of bees by any plan except by moving them a few feet every day that they can fly. If to be moved at once where wanted, the least loss and the best plan would be to wait until towards spring, and then move them on the first day they can have a flight after a confinement of several weeks.—G. L. Tinker.

The fact that the bees have been on the same stands for a longer or shorter period makes no difference in the proposition. I would say that the safest plan would be to move them all about 3 miles from the present location; leave them till young bees are flying freely in the spring, and then replace them where you desire to have them remain permanently.—J. E. Pond, Jr.

I have moved my apiary of nearly 100 colonies 3 times in the past 4 years, and every time without loss. Move them in the early spring, and all in one day. Close up the hives in the morning, and carry them to their new location, and keep the hives all closed till late in the evening. In the meantime clear up the old yard and change its general appearance all you can. Lean up in front of the hives some boards, or pile some brush in front of them. Now the first warm day the bees fly freely, will be the trying time. If they return to the old yard in great numbers, keep a lot of smothered fires going till the trouble is over. You may have to look after them for 2 or 3 days.—G. W. Demaree.

Albinos and Italians.

Query, No. 171.—In the answers to Query, No. 159, the prevailing opinion seems to be that both dark Italians and hybrids excel light Italians as honey-gatherers. How do the Albinos compare with light Italians as honey-gatherers? Are they as gentle and prolific?—Lewis.

I have had no experience with the Albinos, but I believe that they are no better than the light Italians.—G. M. Doolittle.

I tried the Albinos only one year. They were very handsome and very gentle, but were not up to the standard for business. I thought that with the yellow Italians they had the beauty and amiability at the expense of business. Possibly I judged too hastily.—A. J. Cook.

Albinos are pure, light-colored Italians, and nothing more nor less. The term "Albino" is a misnomer as applied to the bees so-called, and can only be accepted as an approximation. I have found that light-colored bees work just as well as any others. I have also found poor workers of all shades of color, and poor hybrids in many instances. The yellow strains are ordinarily more gentle than the darker, and therefore, as a rule, more to be preferred.—J. E. Pond, Jr.

If you will rear Italian queens extensively, and advertise them for sale, you will find out what the prevailing opinion is on this subject. About one purchaser in ten will take your dark Italians off your hands, and the hybrids—you will find them like the old preacher's "coon skin," you "cannot sell, give away or lose them." I have tried the Albinos, and they are as good as the best Italians. They are simply a strain of the Italian race.—G. W. Demaree.

I can speak only for the Syrio-Albinos. The queens of this strain, as a rule, are more prolific than the Italians; they also average a little larger in size, some of the best measuring a full inch in length when laying. The workers are very gentle—some of the best marked white bees being remarkably so. Smoke is unnecessary in handling them. As honey-gatherers they are fully equal to the best strains of the Italians.—G. L. Tinker.

Candy for Bees in Winter.

Query, No 172.—Can bees be wintered successfully on candy composed of basswood honey and granulated sugar, and made to the required thickness? I have a couple of choice Italian colonies which I desire to feed.—J. G., Wisconsin.

We would prefer syrup instead of candy.—Dadant & Son.

I think without doubt they could, though I have never tried it.—A. J. Cook.

A trial will tell you. I should use powdered sugar instead of granulated, as much of the granulated is often wasted by falling to the bottom of the hive.—G. M. Doolittle.

I have never wintered bees on candy, but others have done so successfully. If colonies need feeding *now*, that is what I would advise.—W. Z. Hutchinson.

Yes, in my locality; but they must be looked after in the early spring, as colonies fed on candy are likely to "swarm out" if the candy becomes dry and hard.—G. W. Demaree.

I have experimented but little in this direction. I think that they *could*, but I should much prefer clear sugar syrup, fed into the combs in proper season.—James Heddon.

Yes; that is to say, no one can assert positively as yet, that any given colony will winter safely, but so far as the mere matter of food is concerned, this inquired about is as safe as any other.—J. E. Pond, Jr.

In feeding back a lot of extracted honey, three years ago, to get partly filled sections completed, I found subsequently that all the honey in the sections and brood-combs had become candied solid, and as hard as the "Good candy" can be made. As the bees wintered well on the candied combs, I think they would winter equally well on the candy, if they can have space enough to cluster.—G. L. Tinker.

Local Convention Directory.

1886. *Time and place of Meeting.*

Jan. 12.—Cortland Union, at Cortland, N. Y.
W. H. Beach, Sec., Cortland, N. Y.

Jan. 19.—N. W. Ills. & S. W. Wis., at Freeport, Ills.
Jonathan Stewart, Sec., Rock City, Ills.

Jan. 19—21.—Maine, at Skowhegan, Me.
Wm. Hoyt, Sec., Ripley, Me.

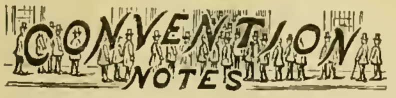
Jan. 20, 21.—Indiana State, at Indianapolis, Ind.
F. L. Dougherty, Sec., Indianapolis, Ind.

Jan. 21.—Champlain Valley, at Middlebury, Vt.
R. H. Holmes, Sec., Shoreham, Vt.

Apr. 27.—Des Moines County, at Burlington, Iowa.
Jno. Nau, Sec., Middletown, Iowa.

☞ In order to have this table complete, Secretaries are requested to forward full particulars of time and place of future meetings.—Ed.

Preserve your papers for reference. If you have no **BINDER** we will mail you one for 75 cents, or you can have one FREE if you will send us 4 new yearly subscriptions for the Bee Journal.



CONVENTION NOTES

North American Bee-Keepers' Society.

The Sixteenth Annual Convention of the North American Bee-Keepers' Society met at Detroit, Mich., on Tuesday, Dec. 8, at 10 a.m., President L. C. Root in the chair. Quite a large number of bee-keepers were present from 10 States and Canada; all were very enthusiastic, and as "sweet as honey."

After an impressive invocation by the Rev. L. L. Langstroth, the Secretary called the roll of members for last year. Those present paid their dues and received their badges, among them being six ex-presidents of the Society.

The Treasurer reported $48.90 in the treasury. It was voted to omit the reading of the minutes of the last meeting, as they had been published in all the bee-papers, and it was not necessary to lose time in reading them.

Mr. A. F. Manum, Vice-President for Vermont, reported the honey crop of that State, for the present season, to be 160 tons.

Mr. Wm. G. Gibbons, Vice-President for Delaware, in his report, says:

The year 1885 has been an exceedingly unpropitious one for bee-keepers in this part of the country. The warm weather which usually sets in by April 10, was procrastinated until near the beginning of May, and during both April and May cold rainstorms were frequent. The result was that the bees got to work 15 days later than usual. The white clover, which is in this section the best and almost only bee-pasturage, did not seem to be well supplied with nectar, and the season of its bloom was exceptionally short; consequently the colonies gathered a very small supply of surplus honey, and few swarms issued. Generally the colonies are in good condition for entering upon the coming winter, and seem to be healthy.

Mr. Arthur Todd, Vice-President for Pennsylvania, made the following report for the year 1885:

The winter of 1884-85 proved disastrous to many bee-keepers in the State of Pennsylvania, and as regards a honey harvest—practically there was none. The fall crop of honey has likewise been a complete failure, and bees go into winter quarters in bad condition, unless fed on sugar syrup. I have taken pains during my business journeys, and in my correspondence, to learn the actual results of bee-keeping this year in this State for many a mile distant from Philadelphia, and I think that the word "disastrous" will best express the general feeling as to the results.

I regret that I am unable to meet the brethren in convention assembled; it is a great disappointment to me.

Mr. H. F. Hunt, Vice-President for Quebec, Canada, reported as follows:

The knowledge of bee-culture, by the improved methods of manipulation, is still in its extreme infancy in Quebec, and has only within the past few years begun to be disseminated among the people, the southern and southwestern parts having more bee-keepers than the other parts. There are numerous box-hive bee-keepers throughout the country, who still take their honey by the old-fashioned method of "brimstoning"—a method which I hope is now on its "last legs." My report, therefore, will not bear comparison with that of our sister Province—Ontario—but I hope that in the not far distant future, we shall be able to make as good a showing. The success attending the labors of bee-keepers in Ontario, will act as a stimulus to those in Quebec.

In common with the rest of the North American Continent, the losses last winter were heavy, but bee-keepers, as a rule, have not been much discouraged, and are hoping for better success this winter. Our losses were not so heavy as those farther south, which I attribute to our being compelled to protect the bees well, on account of the severe cold which once or twice every winter touches 30° below zero, the average being 5° to 10° above.

I have not received as many responses as I could wish, to my request for reports, but I generalize from what I did receive. The past season has been a very poor one indeed, owing to the extraordinary cold season, which seriously curtailed brood-rearing and the secretion of nectar, in some parts of the Province, notably in the vicinity of Lake Megantic, and in the county of Beauce. The spring was so dry that certain crops had to be replanted, and would, no doubt, have acted unfavorably to the secretion of nectar in the white clover. Some honey was gathered from basswood, which yields more freely to the south than to the north of the St. Lawrence. Fall flowers also have not given much, and many colonies have had to be fed for winter.

Mr. S. T. Pettit, Vice-President for Ontario, Canada, made the following report:

Bee-keeping in Ontario, for the last year, has not been of the most flattering kind. During the last winter and spring about 75 per cent. of our bees perished. This great loss was brought about by three principal factors, viz: poor stores, long-continued cold in both winter and spring, and inexperience.

Generally speaking, those of long experience in apiculture, who have given much time, study, painstaking, and exacting care—in a word, those who make bee-keeping a specialty, and who are adapted to the business, sustained comparatively little loss; hence it is plain that this great loss fell principally upon those who, as a rule, neglected some other business to enjoy an immense amount of pleasure and grow suddenly rich by "keeping bees." The large amount of dead, filthy honey thrown upon the market the past spring, has done no little harm to the pursuit. Interested parties are constantly promulgating the idea that everybody should keep bees, which results in no inconsiderable loss to the country.

Beside the indirect loss by diverting the minds of many from their legitimate calling, I believe a fair calculation would show the startling fact that every pound of honey produced in Ontario, for the last 6 years, has cost the producers, on an average, not less than 25 cents per pound.

The teaching that everybody should do everything for himself, is a retrograde movement, undermining the best manufacturing, producing, carrying and commercial interests, and tends to semi-barbarism; no matter how persistently or plausibly put, "the trail of the serpent is over it all;" "every man to his trade" is a noble motto, and brings "the greatest possible good to the greatest possible number."

The season was a poor one; the amount of honey taken being about 50 per cent. below the average. The weather was too cold and wet with occasional hot spells. The principal honey-producing flowers were abundant, but the elements failed to get into the proper humor to inspire them with their natural love for the secretion of the delicate, sparkling sweets, and the friendly visits of the honey-bee. In spite of all this, some of the short crop of 1884 is yet on the markets; but we will have a clean market for 1886.

There are several practices that militate against the true progress of apiculture in Ontario, besides those already referred to:

1. Extracting green or unripe honey. It is impossible by human art or skill to impart that exquisitely fine, finished flavor that the bees give it when left with them until it is capped.

2. The practice of feeding sugar either for stimulating or wintering purposes. It is very difficult to disabuse the public mind. They know that we feed sugar, and they seem determined to cherish the belief that in some way or other it gets into the honey. If we all fed honey instead of sugar, a less quantity would be thrown upon the markets, and a correspondingly higher price would be obtained, besides inspiring confidence in the purity of our honey.

3. Small bee-keepers demoralize our markets sadly, and give a good deal of trouble by allowing their bees to be robbed.

4. And last but not least, I fear the most of us will have to plead guilty to the charge of painting the bright side of bee-keeping too bright, while we keep the dark side obscurely in the dark; in fact it is much easier to show up the bright side than the dark side—it seems to loom up so easily.

In conclusion, I desire to say, that the practice of exhibiting granulated honey in glass, at our Expositions, is doing good service by way of an educator; both dealers and consumers begin now to regard granulation as a proof of purity.

The following were duly recorded as members for the present year :

G. A. Adams, Perrysburg, O.
J. H. Andrus, Almont, Mich.
Geo. H. Ashby, Albion, N. Y.
H. J. Ashley, M. D., Machias, N. Y.
C. S. Avery, Millard, Neb.
Richard Bangham, Windsor, Ont.
Ira Barber, De Kalb Junction, N. Y.
O. J. Bedell, Kawkawlin, Mich.
A. D. Benham, Olivet, Mich.
E. Berkey, Savannah, O.
H. R. Boardman, East Townsend, O.
Sam'l H. Bolton, Benton, O.
F. C. Burmaster, Irving, N. Y.
W. H. Burr, Detroit, Mich.
Mrs. V. E. Burton, Detroit, Mich.
Hiram Chapman, Versailles, N. Y.
A. B. Cheney, Sparta, Mich.
L. T. Christiancy, Toledo, O.
F. S. Clark, Bowling Green, O.
W. E. Clark, Oriskany, N. Y.
Rev. W. F. Clarke, Guelph, Ont.
F. S. Comstock, North Manchester, Ind.
B. F. Conley, Brighton, Mich.
A. J. Cook, Agricultural College, Mich.
E. J. Cook, Owasso, Mich.
Henry Cripe, North Manchester, Ind.
H. D. Cutting, Clinton, Mich.
C. P. Dadant, Hamilton, Ills.
G. M. Doolittle, Borodino, N. Y.
Frank A. Eaton, Bluffton, O.
Will Ellis, St. Davids, Ont.
Martin Emigh, Holbrook, Ont.
Jas. Forncrook, Watertown, Wis.
A. M. Gander, Adrian, Mich.
F. A. Gemmill, Stratford, Ont.
H. C. Gibson, Burr Oak, Mich.
Geo. B. Goodell, McGee's Corners, N. Y.
John G. Gray, St. Catherines, Ont.
A. W. Greene, Florence, Ont.
J. B. Hall, Woodstock, Ont.
Benj. Harding, Kent, O.
Mrs. L. Harrison, Peoria, Ills.
M. Higgins, Windsor, Ont.
Geo. E. Hilton, Freemont, Mich.
E. L. Hubbard, Water Valley, N. Y.
M. H. Hunt, Bell Branch, Mich.
H. F. Hunt, Villa Mastai, Quebec.
W. Z. Hutchinson, Rogersville, Mich.
C. R. Isham, Peoria, N. Y.
D. A. Jones, Beeton, Ont.
August Keotlen, Flint, Mich.
A. W. Kistenbroker, Oak Park, Ills.
Otto Kleinow, Detroit, Mich.
Rev. L. L. Langstroth, Oxford, O.
Silas M. Locke, Wenham, Mass.
N. W. McLain, Aurora, Ills.
James McNeill, Hudson, N. Y.
J. J. McWhorter, South Lyon, Mich.
A. E. Manum, Bristol, Vt.
J. J. Martin, North Manchester, Ind.
Dr. A. B. Mason, Wagon Works, O.
D. F. Moe, Parma, Mich.
Elias Mott, Norwich, Ont.
C. F. Muth, Cincinnati, O.
Thomas G. Newman, Chicago, Ills.
S. F. Newman, Norwalk, O.
Geo. A. Ouram, Berlin Heights, O.
S. T. Pettit, Belmont, Ont.
Thos. Pierce, Gansevoort, N. Y.
P. M. Puhl, South Toledo, O.
John Rey, East Saginaw, Mich.
M. G. Reynolds, Williamsburg, Ind.
J. A. Robison, Findlay, O.
L. C. Root, Mohawk, N. Y.
C. M. Ruland, Rockton, Ills.
George Schook, Three Rivers, Mich.
C. W. Shepard, Le Roy, N. Y.
Geo. Smith, Amadore, Mich.
G. W. Stanley, Wyoming, N. Y.
James P. Sterritt, Sheakleyville, Pa.
R. L. Taylor, Lapeer, Mich.
Mrs. R. L. Taylor, Lapeer, Mich.
F. J. Temple, Ridgeway, Mich.
E. W. Thompson, Hinsdale, N. Y.
N. O. Thompson, Cold Water, Mich.
W. O. Titus, Toledo, O.
James Ure, East Saginaw, Mich.
J. Vandervort, Laceyville, Pa.
J. Van Deusen, Sprout Brook, N. Y.
T. L. Von Dorn, Omaha, Neb.
E. Walker, Berlin Heights, O.
Byron O. Walker, Capac, Mich.
Mrs. Byron Walker, Capac, Mich.
H. L. Wells, Defiance, O.
W. C. Wells, Phillipston, Ont.
M. S. West, Flint, Mich.
L. C. Whiting, East Saginaw, Mich.
Edwin Willetts, Agricultural Coll., Mich.
Wm. Wilson, Burr Oak, Mich.
A. D. Wood, Rives Junction, Mich.
L. C. Woodman, Grand Rapids, Mich.
Mrs. L. C. Woodman, Grand Rapids, Mich.
M. D. York, Millington, Mich.

The Rev. L. L. Langstroth was called upon for a speech, and upon arising he was greeted with a storm of applause. He gave a very interesting account of the rise and progress of modern bee-culture in this country, and of the invention of the movable-frame hive.

Pres. Root appointed the following committees :

On Finance.—G. M. Doolittle, W. F. Clarke, and Prof. A. J. Cook.
On Statistics.—Thos. G. Newman, D. A. Jones, and Silas M. Locke.
On Resolutions.—Prof. A. J. Cook, W. F. Clarke and R. L. Taylor.
On Exhibits.—Dr. A. B. Mason, J. B. Hall, and G. M. Doolittle.

Thereupon the meeting adjourned until 2 p.m.

AFTERNOON SESSION.

Pres. Root called the meeting to order at 2 p.m., and announced that the first business would be the address of welcome by Hon. Edwin Willetts, President of the Michigan Agricultural College. President Willetts, on arising, was greeted with enthusiastic applause. His address was as follows :

MR. PRESIDENT, LADIES AND GENTLEMEN :—It becomes my duty, and it is a pleasure, to welcome you to the State of Michigan. I know of no reason why I should be asked to do so, save, perhaps, because for fifty years I have been a citizen of the State, and at present represent the Michigan Agricultural College, which institution makes a specialty in bee-culture and instruction in the habits and propagation of bees.

We have those present who can more fitly represent that feature of the institution than myself, but neither they nor any one else can welcome you to our State with a more hearty greeting than can I. We are glad to see you in our midst. There is a growing interest here in the industry that you represent to-day. Michigan easily ranks high in the production of honey. The breezes are tempered by our inland seas, and our soil is generous in foliage and flowers. We are strangers to extreme drouths and pestilential moisture. We are not in the path of the blizzard or the tornado. Nearly every foot of land in our Southern Peninsula takes kindly to the plowshare, and rejoices in a fertility that responds heartily to the demands of the husbandman. We are a busy people, in busy homes, and we harmonize easily with the " busy bee." We understand each other—we and the bees—and each pursue our vocations without antagonism. Hence there is room for both, without hostility and mutual profit ; and all we need is the dissemination of such information as you can give, to lead us to a more general pursuit of your industry.

We shall expect an impulse in that direction as the result of your deliberations. You represent no mean vocation. Ever since and before Jacob sent as a present to propitiate the hard master in Egypt, a little balm, and a little honey, spices and myrrh ; ever since Columella wrote, and Virgil and Horace sang, the sweet elixir has tempted the palate of mankind. There is no substitute for it ; the analysis of the chemist is unable to produce it ; man cannot make it, or grow it, or rectify it, and till Millennium's dawn it will be nectar to men and gods.

Yours is no insignificant industry. You represent 3,000,000 colonies of bees, with an annual product of surplus honey of 100,000,000 pounds. Under the impulse of this and kindred associations, the product is increasing annually. The cheap sugar of to-day has no perceptible influence upon the demand or the price of the commodity. As the country increases in wealth and luxury, the demand grows with its growth, and increases with the means to gratify the appetite. The best minds in the field of science have contributed to the more successful promotion of the industry. Aristotle, Virgil, Columella, Pliny, Swammerdam, Ray, Latreille, and a host of others, ancient and modern—not to forget Langstroth, Cook, Quinby, Root, and others of our day—have studied, observed, experimented and written about bees and their habits, till we know how best to rear them, and how best to utilize their harvest of sweetness ; so that to use the words of a learned Judge of one of our Courts, who said, " In modern days the bee has become almost as completely domesticated as the ox or the cow. Its habits and and its instincts have been studied, so that it can be controlled with nearly as much certainty as any of the domestic animals."

You have almost taken it out of the class *feræ naturæ.* The propensity to mischief has been so diminished, that serious injury is almost as rare from a bee as from the horse, and far less than from the dog. The Courts take kindly to the bee. They look with favor upon animals or insects that are useful to man ; with disfavor upon such as are purely noxious or useless. There is no question of the utility of bees. I note this fact, as I observe a little apprehension among apiarists, about the attitude of Courts occasionally, and the fear that there may grow up some legal limitation or liability that shall destroy your industry. Bees were here before Courts or juries, and they have the right of way, and will keep it so long as their product is desirable. The recent case that has caused some apprehension, will be found, I hope, to be based upon an utter misconception of the bee and its habits. It will be found, I have no doubt, that a sound grape is absolutely armor-proof to the attack of the bee. It is only when the armor is broken that the attack is made. A grape with a broken shell is practically valueless—worthless, except for the wine-press ; and for one, I frankly say, gentlemen, that as between the wine-press and the bee—as between alcohol and honey—I am for the bee and for the honey, and I believe the Courts will give the bee the case.

But, gentlemen, I am not here to keep you from your deliberations. I again welcome you to Michigan, and trust that your stay with us shall be so pleasant that your recollection of it shall be a life-long joy.

Pres. Root said that he strongly advocated the location of this meeting at Detroit, and he was fully satisfied that there was wisdom in the choice. He had always been much interested in Michigan bee-keepers, and was very glad to meet with so many of them here. The matter of defense of our rights as bee-keepers had been mentioned by Pres. Willetts, and he was much in favor of unitedly defending our rights. As Mr. T. G. Newman was General Manager of the Bee-Keepers' Union, an organization created for this purpose, he would call upon Mr. Newman to make a statement concerning what had been done, and what was expected to be done in the future, by the organization of which he was manager. Mr. T. G. Newman then delivered the following address, on the

NATIONAL BEE-KEEPERS' UNION.

During the past year it has become necessary to form a Bee-Keepers' Union. As this society is a Continental one, it would seem to be appropriate that some notice should be taken of it by this Convention. With your permission I will state a few facts, and leave it to those present to say whether the work of the Union shall be approved by them or not.

Last June Mr. S. I. Freeborn, an extensive apiarist of Wisconsin, was sued by a neighbor, who kept a flock of sheep, for alleged annoyance to his sheep by trespassing bees.

It was understood that this was to be a "test case," and if the plaintiff succeeded in obtaining a verdict in his favor, either by the ignorance or prejudice of a jury, other bee-keepers would be likely to be sued to recover damages done to pastures, vineyards, and gardens by bees; and any one owning a few square rods of land, devoted to almost any purpose, may try to recover damages from all the owners of bees in the vicinity.

Mr. James Heddon suggested the formation of a Bee-Keepers' Union in defense of their rights, and to protect their interests. Such a Union was formed, and officers elected as follows:

President—James Heddon.
Five Vice-Presidents—G. M. Doolittle,
G. W. Demaree, A. I. Root,
Prof. A. J. Cook, Dr. C. C. Miller.
Manager, Sec'y & Treas.—T. G. Newman.

The officers were made an Advisory Board, with full power to act.

This Union, as soon as organized, employed attorneys, obtained "opinions of law" from bee-keepers who were also attorneys, and made *such a stir* in the sheep-bees case, showing such fighting enthusiasm, that the Judge made a thorough examination of the laws of the State, and concluded that their existed no laws or rulings upon which he could instruct the jury; and bee-keepers have cause for *pride* in the success that attended their efforts in this matter.

In California a suit has been tried in a Justice's Court against Mr. Bohn for alleged damage done to grapes by his bees. This suit was lost in the lower Court, because witnesses were obtained who testified that they had seen the perforation and destruction of the grapes done by Mr. Bohn's bees. In vain did the defendant's attorneys prove by a score of witnesses that the bee's tongue could only be used to extract sweets from the flowers—not to bore after them. The evidence of the eye-witnesses of the plaintiffs had weight with the jury, and they accordingly returned a verdict against the defendant for $75 and costs of suit, which amount to over $60. The damages claimed were $299.

The National Bee-Keepers' Union advised Mr. Bohn to appeal from the decision of the Justice's Court, and assured him that the Union would stand by him, and aid in the appeal by sending money, obtaining legal advice, depositions from scientific experts as to the incapability of bees to puncture grapes, etc. The appeal has been taken, and our California brethren are now busily at work getting members for the Union there.

A California apiarist says: "If it goes against us in the higher Court, there will be no end of the trouble that will arise, and our bee-industry will receive a death-blow in Southern California."

An apiarist in Anaheim, Calif., had the fence around his apiary torn down, all his bees killed by sulphur, the hives piled up under a valuable pepper-tree and consumed by fire. Another apiarist was threatened with hanging—all because some fruit-growers had moved into the neighborhood after his apiary had been established several years, and they wanted to compel him to move away with his bees.

As a Continental body of apiarists, have you no word of encouragement for an organization created for the purpose of defending the rights and protecting the interests of the bee-keepers of America? Do you say: "Let us co-operate, and, if necessary, maintain our rights as bee-keepers in the highest courts of the land?" That can be done only by having sufficient money to defray the expenses, and such are usually very high. To be sure, it will be a small matter, if all will bear their part of the burden. One thousand dollars of expenses when divided between 1,000 persons, is only a dollar for each, and can easily be borne; but when one has to pay it all, it becomes a heavy burden; and, to many, one that would be impossible to bear. United effort is essential to successfully defend our chosen pursuit!

The National Bee-Keepers' Union needs strong hearts, willing hands, and many shekels. Are you willing to help? Is your name enrolled among the "National Guards." If not, lose no time in becoming a member, and thus help to fight the battles of our pursuit in defense of its rights! If we can raise a column of patriots sufficiently strong to present a formidable front, we shall *dare* the envious ones to "bring on their lawsuits," and by "an imposing array" and "unbroken front," gain a lasting and permanent victory!

Mr. S. T. Pettit said that it was necessary to band together to defend ourselves.

Rev. W. F. Clarke said, "United we stand." He would prefer to have the National Bee-Keepers' Union consolidated with the North American Bee-Keepers' Society if it was possible. He was one of the first in Canada to join the Union, and said that if it is not consolidated, we must co-operate with the Union in the most decided way.

Mr. W. E. Clark said he agreed with the last speaker—if it can be done, he was in favor of consolidation.

Mr. C. R. Isham said that the great fight for the Union was to be fought in California in the raisin district. We must sustain the Union, and defend our pursuit.

Mr. T. L. Von Dorn said that the bee-keepers of Lower California were in danger of being entirely driven out by the raisin-growers.

Mr. C. F. Muth remarked that the matter was one for the Courts to decide—not that of one pursuit against another.

Prof. A. J. Cook said that it was a case of bee-keepers and fruit-growers on one side, and ignorance on the other. The bees are the best friends to fruit-growers, to fertilize the flowers, and thereby produce the fruit. In the spring when there are but few insects to fertilize the flowers, the bees are very valuable.

Mr. H. R. Boardman advised conciliation, when there are complaints against bees by fruit-growers and others. A crate of honey given to such complainants, will do much to cause them to feel differently.

Rev. W. F. Clarke said that in Court, a crate of honey would do no good—law must decide the case. He then offered the following resolution:

Resolved, That a committee of seven be appointed to consider and report upon the best methods of protecting the interests of bee-keeping from legal attack prompted by ignorance.

The resolution passed, and the committee was appointed as follows: W. F. Clarke, T. G. Newman, W. E. Clark, James Heddon, C. F. Muth, S. T. Pettit, and Prof. A. J. Cook.

The President's annual address was then given as follows:

BROTHER BEE-KEEPERS OF NORTH AMERICA:—We have assembled here at our annual convention to consider that which pertains to the best interests of our pursuit. I shall not occupy your time with an exhaustive address, for the programme is full, and very complete, and our time is short at best to consider the many important subjects which will be presented. I am here as a member of this Society to assist as best I may in throwing light upon the topics brought before us. I take it as an expression of good-cheer and great generosity in those who have arranged the preliminaries for these meetings, that everything for the comfort of us all has been so amply provided, and that all arrangements are so thorough and complete. Let us see to it that we endeavor to perform our part in as faithful and unselfish a manner as our Committee has done.

We have reached a crisis in the history of bee-keeping which must be met by those who are interested in the pursuit, in a broad, honest, and unselfish way. Every well-informed bee-keeper is reminded in the most unmistakable manner that the time when large profits may be realized from keeping bees, has passed. Each year, the prices of our products have been reduced, until at the present time we find many of our markets overstocked, and our honey selling at rates which allow us little profit for producing it. These are stern facts which must be fairly met. It is not my purpose to attempt to instruct those who are already experts in the business. Their lessons have been taught them by dearly bought experience, the results of which are due to the beginner, and to those whose experience has been more limited.

We have passed through a period of great enthusiasm, and have indulged in much that has been unwarranted and injudicious. We have been far too selfish. As supply-dealers and publishers of bee-literature, we have been far too anxious to present the bright side of our callling. If we have been unwise in the past, we should be thankful that by the light of these past experiences we are able to see more clearly our way for the future. Many years ago, beginners were heard to ask if it were advisable to engage in bee-keeping as an exclusive business. The answer should have been then as now—"Commence moderately, and let experience decide as you advance." The real question now seems to be, "Shall we commence at all?" or "Shall those of us who are already engaged in it, continue?"

In answer to such questions I would offer the following suggestions: 1. Our calling is an honorable one, and is an essential branch of agriculture, in that the honey-bee is indispensable to the fertilization necessary in the vegetable kingdom. Wherever civilization advances, there the honey-bee is found. 2. Honey is a wholesome and desirable article of food. 3. It is furnished to us at our very doors, and if we fail to preserve it, the odor of wasting sweetness constantly reminds us of our neglect and loss.

With these points in view, is it not evident that a great work is to be accomplished in applying the lessons of economy and industry taught us by the bees themselves, to the accumulation of this freely-given production in the most desirable and profitable way?

We have been extravagant in many of our expenditures. These we must endeavor to reduce, to correspond as much as possible with the reduction in prices. We have incurred a large expense by the great amount of labor which we have required in unnecessary manipulation. In this I anticipate a change as we advance, which will result not only in economy of time and labor, but also in avoiding many serious consequences. It is evident that we yet need much light upon many of the simple and practical, as well as on the scientific phases of our calling. With every advance made in apiculture, it becomes more apparent that there are new fields of investigation and research, which promise to yield information, and are destined to work marked changes in our methods of managing bees. Only those will succeed who are willing to practice the most rigid economy, and who will be satisfied with moderate pay for honest work performed.

It is evident that the effort has been too much in the direction of increasing the production, rather than to create a corresponding demand for the same. I think I am safe in the assertion that no effort of ours is needed which shall tend to an increased production of honey for our present, general, overstocked market. Last season extracted honey was shipped to New York from California by car loads. The market was already overtocked with the best grades of Eastern honey, and the result was such that California bee-keepers will hardly care for a repetition of the experience. The present season has afforded another illustration. Honey has been shipped very largely from the Eastern and Middle States to New York, and the outcome of this has been that the choicest white honey in sections has sold at ruinously low rates, and some of it has actually been returned to grocers in our own vicinity. By these methods we practically establish these unprofitable prices ourselves.

The resource seems to be that we must enlarge our field of consumption. This can be done by each bee-keeper, by encouraging home consumption in his own immediate vicinity, and also by opening up new avenues for the uses of honey. A demand thus created would measurably relieve the over-burdened city markets; and in this way we would be able in some degree to maintain reasonable prices. With the present facilities for disposing of our products, it is difficult to avoid the conclusion that there is an over-production. Whether this will grow to become a positive fact, or whether bee-keepers will succeed in causing the demand to keep pace with their success in producing, is the problem to be solved in the near future.

Much will depend upon the answer to still greater questions which are agitating the best minds of the day. If the thousands of dollars which are annually spent in nearly every community for that which tends to degrade, and to the production of evil, could be turned to the purchase of that which is wholesome and beneficial, the danger of over-production in this, as in other useful callings, would be little to be feared. My faith in the fact that in the end the right will prevail, leads me to the conclusion that any calling which presents such a wide field for the intelligent and patient worker, and student of nature, and which is so productive of a harvest of good, must always command those who will find it pleasant and profitable to continue in the work until the harvest is complete.

Mr. C. F. Muth remarked that in New York they principally demanded honey in glassed sections or in paper-boxes. In the West, such are unsalable. We, here, require it in unglassed sections with the crates glassed.

Mr. C. R. Isham said that our honey-producers can sell all their honey in glassed sections, and it is desirable to do so in order to preserve its beauty and purity.

Mr. Thompson said that he wrote to New York asking for a bid for best glassed honey, and he was offered only 10 cents per pound for it delivered in New York.

Mr. J. B. Hall proposed a vote of thanks to Pres. Root for his able address.

Mr. G. M. Doolittle then read an essay on

THE PRODUCTION OF COMB HONEY.

He said that there were four things important in the production of comb honey: First, a good queen; second, the getting of the bees at the right time to secure the harvest; third, a skillful apiarist; and fourth, the right kind of a hive. Remarks were made on each of these points, and Mr. D. said that we could divide and subdivide these four heads, especially the last three, yet the fundamental principles would not be changed.

The discussion on comb foundation took a general and rather desultory course. Mr. J. B. Hall was asked to state his method, and confined himself to his experience with comb foundation.

Rev. W. F. Clarke said that Mr. Doolittle's essay was professedly on the production of comb honey, but what he said was just as applicable to the production of extracted honey. A good queen, plenty of bees to gather in the honey harvest, a skillful apiarist, and a good hive—were not these just as needful for the production of extracted as comb honey? What we want is the points of a skillful apiarist required to get large crops of comb honey. We want to know how to do it. Our most successful producers of comb honey rather tell us "how not to do it." They appear not to like to explain things. They take Burns' advice to his friend Andrew:

> "Still keep a secret in your breast
> Ye never tell to any."

For several years at these conventions he had tried to get Mr. Hall to explain how he gets such large crops of splendid comb honey, but he had never done it.

Mr. Hall: "I should have to make the man."

Mr. Clarke: "Well, here he is; take the raw material and make the man. That's just what I want."

Much amusement and bantering of Messrs. Doolittle and Hall to explain the *how*, but the wily veterans did not come to the scratch.

Amid much laughter the subject was laid on the table, and the next order of the day taken up, viz: an essay by Mr. C. P. Dadant, on

EXTRACTED HONEY.

Comb honey is nice, but it is a fancy article, and is too costly for the general public who want an article not costing more than sugar, with which it competes, and if honey can be supplied as cheaply as sugar, it will, to a large extent, supersede it. In their experience, their sales had largely increased, and the home market now readily consumes all their crop. Extracting honey checks swarming, without a doubt. It enables the apiarist to take care of a larger number of colonies. A larger quantity of honey can be obtained, and much outlay for combs, crates and boxes is saved. Mr. Dadant considered it a mistake to suppose that there is an over-production of honey. It is only beginning to be considered a staple. When honey is as common on the tables of the farmer, and even laborer, as sugar, and when it is found as common by the keg and barrel in wholesale stores as sugar, then only shall we produce as much honey as the country can use. The revolution in bee-keeping of which Father Langstroth speaks, has come into effect, but bee-keepers are only beginning to find out all the advantages and all the growth which the bee-business must derive from the invention.

Dr. Mason described his method of getting extracted honey, but complained that he could not get more than 65 pounds per colony. He was asked how many combs he used, and replied, "eight."

Mr. C. F. Muth could not comprehend how the Doctor could manage with so few frames. He wanted at least 10 frames for the brood-nest, and then another story for extracting. Even his bees, kept on the house-top in the city of Cincinnati, had given him averages double and even treble what Dr. Mason had obtained, and from hives in the country where they had not so far to fly, he got far more honey.

Mr. W. E. Clark said that the President had been the most successful producer of extracted honey in the East, and he would call on him to explain his methods.

Pres. Root, in response, said that it was perfectly true, as Mr. Clarke had said, that Mr. Doolittle's requisites for producing comb honey were just as applicable to the production of extracted honey. A good queen, for example, was just as necessary for the one as the other. In both cases wise manipulation was needed, and it took a large amount of study to know what is wise manipulation. Certainly we must have large colonies of bees to gather the honey, then we must extract it at the time when it could be done to the best advantage and with the least hindrance to the bees. It was hard to lay down specific rules—every bee-keeper must be a law to himself, and find out the methods best adapted to his own locality. Experience must be bought by practice, and at considerable expense; he only hoped that it would not cost others as much as it had cost him. Pres. Root gave the stereotyped directions for the production of extracted honey, but said that these were subject to modification in individual cases.

Mr. S. T. Pettit gave his experience in producing extracted honey. He had missed it by not leaving the honey in the hive long enough to ripen. One season his honey was all of an inferior quality, owing to this cause. He did not believe that we could ripen the honey as well as the bees themselves do it. He said that we should have at least one-third of the honey capped before extracting, and he believed it was better if all was capped over.

Rev. L. L. Langstroth did not know that he could add much to the ocean of intelligence that was tiding all around, but he wished to say a word or two. He believed there were many things that the bees could do—certain things better than we can—and ripening honey was one of them. There was too much artificial work in bee-keeping. One bee-keeper had invented nippers to pull dead bees out of the cells, but live bees would do it better.

Dr. Mason said that the "big-bugs" of the Convention had been poking fun at him for getting only 65 pounds of honey per colony, but they would find it impossible to get an average of 300 pounds in his locality—a city on one side and a wilderness on the other. Small as his average yield was, it was larger than that of any of his neighbors. He wished that his critics would show him how to produce 300 pounds per colony, but the trouble was as Mr. Clarke said, they did not to disclose their secrets.

Rev. W. F. Clarke wished to ask if formic acid in honey was not the element which gave it its keeping qualities. He put the question to Prof. Cook. For his own part, he believed that the formic acid was added by the bees in the capping process, which was carried on mainly by the use of their tails—the sting—being the last polishing tool. It was because the formic acid was thus added that honey must be one-third capped to be good, and all capped to be first-rate.

Prof. Cook thought that no one knew how or when the formic acid was added. He was also of the opinion that too much stress was laid on the matter of taste. Few could discriminate as thoroughly as had been suggested.

The Convention then adjourned until 7:30 p.m.

EVENING SESSION.

The meeting was called to order at 8 p.m., by Pres. Root. An essay was read as follows, by Mr. R. F. Holtermann, of Brantford, Ont., on the

CARE OF HONEY FOR MARKET.

I bring this subject before you, fully aware that it is not of as great importance as many others, being indirectly connected with the production of honey; but on that account it has perhaps not received that public attention which it merits. It is our duty when blessed with the means to procure a crop of honey, that we should acquaint not only ourselves but every bee-keeper with what will secure to us the article in the highest state of perfection, and place it thus in the consumers' hands. Have we, as a body, endeavored to do so? Looking at it from a business stand-point, past experience has taught us that in order to realize the best results financially, from any article extensively produced, it is necessary not only to better our own but we must better that of the entire land.

Let us imagine the land completely destitute of vegetation. Here is a heavy soil, in the distance is a sandy one, and between, all grades of soil. Here is a hill, there a swamp, and at other distances, intermediate elevations. Now, could our eye stretch from north to south within the honey-producing area, and were this area to be decked with our present vegetation, which of the aforenamed conditions would influence the quality of honey? The heavy soil would give us a richer honey then the lighter; the more extremes of cold climate would give a better quality than the more equable. Would the high and the low land influence it? We know that honey from every species of flower has its peculiar flavor, no matter how indistinct, and that the season, its winds, temperature, and degrees of moisture influence not only the quantity, but the quality of our honey.

The progress bee-keeping has made, and so many making a specialty of it, has enabled us in a measure to conduct ourselves accordingly; but to the ordinary bee-keeper most of the previously named conditions cannot be controlled. But, how much lies within our power!

One of the first questions would be, when shall we extract? Shall we extract before or after the honey is sealed? What are the advantages and disadvantages of the two systems? If entirely sealed, we require to uncap a large surface, the bees must with the ordinary appliances be cramped for store-room, the brood-nest becomes contracted, not alone meaning loss of time until extracted, but many think they do not regain their old energy for the remainder of the season. The advantages would be, honey called ripe, subject to the before-named conditions.

When is honey ripe? With the system of extracting when the honey is unsealed, there is no uncapping, and bees have plenty of store-room, but the quality is inferior; and right here a friend would step in with his ripening can. But we have made no light mistake; for in the past our honey has been handled too much, as if it could lose nothing by having it come in contact with the air. What imparts that peculiar aroma to honey, and gives each kind of honey a distinct flavor? Is it not largely a volatile oil? Do we not know it is being distilled from every flower, as we pass through a clover-field in blossom? and in evaporating and otherwise coming in contact with the air, we lose this.

Many find that to extract honey when one-third capped, answers well; the honey to be put into deep tanks or barrels holding about 600 pounds each, and left for a week. This causes the light, thin honey to rise to the top —generally it is not 10 per cent., and this can be disposed of a little cheaper —and the rich, ripe honey remains. One week more of exposure is ample for clover, and it becomes sweet without the flavor; basswood longer, according to the taste. Thistle honey has a very distinct odor and taste, but it is very volatile, and requires but little exposure. If we handled our extracted honey thus, would it not take the place of comb honey more?

What is meant when consumers say that they miss a peculiar richness in extracted honey, which the comb will give them? Is it all fancy? How many bee-keepers have greeted you with the remark, after tasting your basswood honey, "Ah, that is pure honey." How many have thought, after tasting the long-exposed clover honey, "That is sugar syrup." The former losses its flavor less readily; the latter more readily.

Has our comb honey been handled with proper care? Should it not always be kept not only dry, but at a temperature that the delicate scales of wax—cell caps—never crack from too low a temperature? Does honey ferment in the cells and crack the wax, or does the cell break, permit access to moisture and atmosphere, and that *cause* the honey to ferment?

Mr. Boardman considered this matter of great importance. That honey was often deteriorated by keeping was undeniable, and he would like to know how it happened so, that it might be guarded against.

Mr. Jones said honey thickened by evaporation, and that it was liable to be injured by evaporating too fast or too slow.

Prof. Cook explained the difference between evaporation and crystallization. Honey can only thicken by evaporation, and to evaporate, it must have air; therefore the sealing is not air-tight. Crystallization is a different affair, and is akin to formation of ice, resulting from the cooling process.

A member said that he thought that honey thickened with age.

Mr. Doolittle gave an instance in which honey was spoiled by moisture swelling the honey, so that the cells were broken, and the honey turned sour in the course of a few months.

Mr. Thompson, of New York, said that he had been greatly troubled with the moth getting into comb honey. He had tried sulphur fumigation with them, but had not succeeded as he could have wished.

Mr. J. B. Hall, of Ontario, on being called upon, gave his experience and practice. He said that the moth would give no trouble unless there was bee-bread in the sections. He was in the habit of fumigating a room 8x10 feet with a pound of sulphur, as a precaution against the moth, and then kept up an even temperature. He had kept it 2 years as good as new.

Mr. Heddon said that there was but little danger of deterioration, if honey was taken proper care of. It should be kept in a temperature higher than the common atmosphere, else it would attract and absorb moisture, and thus be injured. He had no trouble with the moth-worm, and did not believe that the moth would live on pure beeswax. There must be some pollen—some nitrogenous matter in order to form animal tissue.

Mr. C. P. Dadant would confirm the statement that the moth-worm could not exist on pure beeswax.

Mr. Jones asked if any had been troubled with the moth in parcels of wax forwarded for manufacture into comb foundation. He had.

Mr. Heddon said that there was always more or less pollen in such beeswax.

Prof. Cook said that there could not be animal life without nitrogen, and there could not be putrefaction without nitrogen.

Mr. Heddon said that we should take such precautions as would keep out flies, wasps and other insects. By this means the moth-worms would be effectually excluded. He had his honey-house protected with wire-screens, and the moth gave him no trouble.

Some other observations were made on the subject, when the convention adjourned until 9 a.m. of the following day.

SECOND DAY—WEDNESDAY.

MORNING SESSION.

The Convention was called to order at 9:30 a.m., by Pres. L. C. Root, who announced the following as a committee to answer any questions that might be placed in the question-box: S. F. Newman, S. T. Pettit and H. R. Boardman.

Miscellaneous discussions being next in order, considerable disapprobation was manifested by many members, over the report of Prof. H. W. Wiley, of the Department of Agriculture at Washington, giving his analysis of different samples of honey furnished him by bee-keepers. In his annual report he put down many samples as "apparently pure," and many as "probably impure." It was the general opinion that if he could not analyze such products to a certainty, he should say so in his report.

The friends of Mr. A. I. Root, having learned that his 46th birthday occurred on the second day of the Convention, it was suggested that those who desired to do so should, during the intermission, contribute 10 cents each, to Mr. Muth, with which to purchase a birthday present for Mr. A. I. Root. A copy of "Milton's Paradise Lost," beautifully printed, bound, and illustrated, was purchased, and the Rev. W. F. Clarke was selected to present it to Mr. A. I. Root during the morning session, which he did in a very pleasant way. Some other friends also presented him with a bouquet of flowers. Mr. Root replied briefly by thanking those who had been so thoughtful. He valued the kind thoughts much more than the gift, though that was beautiful. He felt that such kindness was undeserved.

Mr. C. F. Muth, of Cincinnati, O., then gave an address on "Marketing Honey." He referred to the low price of honey, which was caused by the cheapness of other sweets, adulteration of honey, and ignorance of the many uses of honey. To secure the best price, we must practice the most scrupulous cleanliness in every manipulation. Extracted honey is often damaged by being put into whisky-barrels. There is charcoal on the inside edges of the staves, and specks of it get into the honey, spoiling its appearance. Clean barrels should always be used. Comb honey must be white, well-capped, and put up in a neat, attractive manner. Only thus need the top figure of the market be expected.

A discussion arose as to the most salable size of sections. There was a very full expression of opinion, which was strongly in favor of one-pound sections. It was not deemed advisable to make any size exclusively, as there was a limited demand for other sizes, particularly in certain markets.

An address was then delivered by Thos. G. Newman, on

PASTURAGE FOR BEES.

A carefully-prepared estimate reveals the fact that in North America (the territory covered by this Society) there are 300,000 persons who keep bees. The annual product of honey amounts to over one hundred millions of pounds, the value of which is about fifteen millions of dollars!

May not these figures give us a full comprehension of the dignity of our mission, the magnitude of the work before us, and the exalted possibilities which may inspire us to fresh zeal and grander achievements in our pursuit?

In passing—let us contemplate, for a moment, how invention, art and science, have followed every "progressive step" in apiculture! Just think of the crude methods of our fathers, and then contemplate the wonderful improvements of to-day! Instead of the tubs and pails of yore, containing broken combs of honey, bee-bread and dead bees, taken from the breeding apartment of the hives, the result of murdering the bees by fumes of sulphur, and then robbing their homes of the "stores" laid up for winter — see the beautiful little sectional-boxes in which we have educated the bees to build virgin combs, and then to fill them with honey from Nature's laboratory—at man's behoof and for man's nourishment! This is but one item in the long catalogue of accomplishments, but it illustrates the apicultural development of the scientific progress and art of this ever-advancing age!

Surely, these *are* grand achievements! but shall we with them rest and be satisfied? No! says the impulsive and enthusiastic bee-keeper—show us the exalted *possibilities* of the future! Teach us how to obtain a crop of honey day after day, month after month, and year after year! Well, this is the duty imposed upon me by your committee—why, I know not; nor did I ask; but I will seek a solution of the problem by leading you into "green pastures," filled with myriads of "flowers," in which Nature distils the honey, drop by drop, and invites the bees, by their gorgeous hues, to come and dip into their tiny fountains, and feast and fly, and fly and feast continually. These fields of splendor will point you to success—to shining dollars, and affluence!

Ask the breeders of stock, the shepherds, and the dairymen, for the secret of their success, and they will point you to their well-tilled fields, green pastures and mountains of hay. They will tell you that they provide corn for their hogs, rich meadows, pastures and hay for their stock, and then naturally expect good results!

Ask bee-keepers upon what they depend for results, and they will have to confess that "luck" has a good deal to do with it; they depend upon natural forests, neighbors' clover fields, wild flowers in the fence corners, roadsides and wild lands; and if they are "lucky enough" to have these in due proportion to their bees, they will sing a song of gladness; but if not, their long visages will tell of hopes blasted and prospects blighted!

But alas, with advancing civilization comes the woodman's ax, cutting down the basswood, elm, oak and maple trees. The farmers' plow destroys the magnificent wild floral carpet supplied by nature, and the poor bees often find nothing to gather—the wild flora is destroyed—the honey all gone—and starvation stares them in the face! Nothing remains for them but to destroy their brood, kill their drones, and if possible to hold out on half-rations, until some stray wild flowers, unmolested by the plow, in fence corners or by the roadside, replenish their scanty stores; but if these are denied, they "succumb to the inevitable"—and their owner declares he "has no luck with bees!"

Now, what is the duty of the apiarist, in this state of affairs? The answer is plain, positive and unmistakable. Pasturage for the bees *must* be provided—it is an absolute necessity. He must study the honey seasons of his locality, and supply the deficiency by planting white, Alsike or sweet clover, mignonette, borage, motherwort, cleome, mustard, rape, etc., and thus provide the bees with honey-producing flora when the natural supply is insufficient or entirely destroyed.

Good judgment must, of course, be exercised in the selection of seeds for planting. If white clover is plentiful, and fall-flowers abundant, scatter mints "to fill the gap." If basswood is the main stay for honey, then sow sage, motherwort, and other early nectar-yielding plants or trees. The goldenrods, asters, buckwheat, sweet clover, etc., will always pay to cultivate for fall honey. The latter (sweet clover) with its white, modest bloom will gladden the eye in June, and the sweet fragrance of its flowers will linger till frost and snow comes and the bees are safely placed in "winter quarters."

We are well aware that many who keep bees have not enough land to spare to devote to bee-pasturage; but in the immediate vicinity of every apiary, and within easy flight of every colony of bees in America, there are waste lands enough, covered with unsightly brambles, burdocks, fennels, mulleins, rag-weeds, etc., which it would *pay* to seed with suitable plants for producing honey. Many of the best honey-plants require but little or no cultivation, after scattering the seeds; and even the poorest honey-producers would be more agreeable to the eye on such waste land than sand-burrs, brambles, fennels, and other weeds which grow spontaneously on roadsides and waste-places.

In view of the uncertainty of sufficient continuous bloom being provided by Nature, and the certainty of annually-recurring periods of cold weather, long and hazardous confinement—to insure success, the apiarist should as carefully and certainly provide pasturage for the bees as to furnish them with hives to shelter them from the cold and storms.

Do you ask, "Will it *pay* to plant for honey?" Let me reply by asking if it *does pay* to keep bees to gather honey at all? If you answer yes, then let me assert—the more bloom, the more honey for the bees to gather; the more honey gathered, the more honey for the market; the more honey sold, the more money for the bee-keeper, and the better the business will pay!

To further illustrate this point: If a honey-flow of 30 days (which constitutes an average honey season, one year with another) will pay—will not 150 days pay *five times as much?* If by judicious planting, we can lengthen the honey season, do we not thereby correspondingly increase the honey crop? and does not this increase of the marketable honey-crop correspondingly increase the income of the apiarist, and add just that much to the material wealth of the Nation?

Rational replies to these queries, by progressive apiarists, ought to demonstrate that *it will pay to plant for honey;* and also that as the country grows older and the population increases, it becomes a *positive necessity.*

Several members concurred in the importance of attention being given to sowing and planting for honey production.

Mr. S. F. Newman spoke of the great reduction in the number of basswood trees, owing to the demand for the timber by those who were manufacturing sections. Ten years ago there were 60 large basswood trees within sight of his apiary; now, all but 5 were gone. He had, however, succeeded in getting them more than replaced by giving away young basswood trees to all who would plant them and care for them. A number planted thus 10 years ago, this year yielded a magnificent crop of honey. The basswood was a fine shade tree, and if bee-keepers would encourage its multiplication, they would find their account in it.

Rev. L. L. Langstroth mentioned the case of a bee-keeper who was thought by his neighbors demented, because he sowed the seeds of sweet clover in a sort of wilderness locality; but as the result he had now a splendid range of bee-pasturage.

Several members spoke warmly in favor of Alsike clover.

Wm. F. Clarke mentioned that it would grow and flourish in low, wet, undrained land, where red clover would not take. He also said that bee-keepers should use their influence to have stock prevented from running at large. It was a just and good law in other views of it, and its passage would double the value of bee-pasturage.

A member suggested that all who had tried the Alsike clover and found it valuable, should intimate the same by rising, when about one-third of the members present arose.

Indianapolis, Ind., was selected as the next place of meeting, and it was voted that St. Louis be in contemplation for the following year.

As the hour of adjournment had arrived, the election of officers was postponed until 2 p.m., when the following were duly elected:

PRESIDENT—H. O. Cutting, Clinton, Mich.

RECORDING SECRETARY—Frank L. Dougherty, Indianapolis, Ind.

CORRESPONDING SECRETARY—Mrs. Cass Robbins, Indianapolis, Ind.

TREASURER—C. F. Muth, Cincinnati, O.

VICE-PRESIDENTS:

Alabama—Nelson Perkins, Princeton.
Arkansas—Geo. B. Peters, Peters.
Arizona—Jas. H. Brown, Prescott.
British Columbia—U. Spears, New Westminster.
California—R. Wilkin, San Buenaventura.
Colorado—Philip Reardon, Jamestown.
Connecticut—H. L. Jeffrey, Washington Depot.
District of Columbia—Rev. J. A. Buck, Washington.
Dakota—J. H. Townley, Ashton.
Delaware—Geo. Remington, Wilmington,
Florida—W. S. Hart, Hawk's Park.
Georgia—Dr. J. P. H. Brown, Augusta.
Illinois—Mrs. L. Harrison, Peoria.
Indiana—J. Scholl, Indianapolis.
Iowa—J. M. Shuck, Des Moines.
Kansas—Chas. Smith, Marysville.
Kentucky—J. M. Egbert, Salvisa.
Louisiana—P. L. Viallon, Bayou Goula.
Maine—J. B. Mason, Mechanic Falls.
Manitoba—Hon. J. H. Wallbridge, Winnipeg.
Massachusetts—S. M. Locke, Wenham.
Michigan—Miss Lucy Wilkins, Farwell.
Missouri—E. M. Hayhurst, Kansas City.
Mississippi—Dr. O. M. Blanton, Greenville.
Minnesota—C. F. Greening, Grand Meadow.
Maryland—Dr. W. G. Phelps, Galena.
Montana—Chas. Bruce, Wickes.
Nebraska—T. L. VonDorn, Omaha.
Nevada—A. A. Leeper, Carson City.
New Jersey—E. Terryberry, Highbridge.
New York—Ira Barber, DeKalb Junction.
North Carolina—H. H. Watson, Sladesville.
Nova Scotia—C. T. Jones, Waterville,
New Hampshire—M. Harie, Keno.
Ohio—A. I. Root, Medina.
Ontario—J. B. Hall, Woodstock.
Pennsylvania—Arthur Todd, Germantown.
Prince Edw. Island—Jas. Gourne, Summerside.
Quebec—H. F. Hunt, Quebec.
Rhode Island—Wm. J. Tracy, Burrillville.
South Carolina—S. C. Boylston, Charleston.
Tennessee—W. P. Henderson, Murfreesboro.
Texas—W. H. Andrews, McKinney.
Utah—O. H. Morgan, Salt Lake City.
Virginia—J. W. Porter, Charlottesville.
Vermont—A. E. Manum, Bristol.
West Virginia—A. W. Cheney, Kanawha, Falls.
Wisconsin—Christopher Grimm, Jefferson.
Wyoming—James Fields, Fort Laramie.
Washington—H. A. Marsh, Fidalgo.

[This report will be concluded next week.—ED.]

SELECTIONS FROM OUR LETTER BOX

Honey Crop a Failure.—O. E. Sayler, Pleyto,+⊙ Calif., on Nov. 24, 1885, writes:

I have failed to see anything in the BEE JOURNAL from this part of California, from the fact, I suppose, that we have not much to say for this year, as the honey crop here was an entire failure; but we hope for something better next season.

Elements of Royal Jelly.—J. Rutherford, Scranton,⊙ Pa., on Dec. 4, 1885, says:

In answer to Query, No. 167, I would say that a full statement will be found on page 232, quoted from Dr. Donhoff; also, the following is the composition of the chyle, according to an analysis:

Water (by heat)	90.237
Albuminous matter (coagulable)	3.516
Fibrinous matter (spontaneously coagulable)	0.370
Animal extractive matter (soluble in water only)	1.233
Animal extractive matter (soluble in water and alcohol	0.332
Fatty matter	3.601
Salts, alkalin chlorid, sulphate and carbonate	0.710
Total	100.000

Report—Mild Weather.—W. Addenbrooke, North Prairie,⊙ Wis., on Dec. 4, 1885, writes:

I started last spring with 83 colonies of pure and hybrid-Italians, and increased them, by natural swarming, to 160 colonies. I did not accept any after-swarms. My surplus honey crop amounts to 2,300 pounds of white clover honey in 1¼-pound sections, and 1,200 pounds of extracted honey. It was a poor season, too, being wet and cold. I have now 140 colonies all ready for the cellar, but we are having very mild weather. Last year, bees were taken into the cellar on Nov. 20. I wintered 130 colonies last winter, and only lost 3.

Good Report.—H. M. Cates, Shideler, ⊙ Ind., on Nov. 23, 1885, says:

In the winter of 1883-84 I lost all of my bees excepting 4 colonies. I am through with wintering bees outdoors, when it can be avoided. The fall of 1884 found me with 25 nice colonies of bees, and after the winter was over I had only 5 colonies to commence the past season with, which I have increased to 15 colonies. I worked them for comb honey, and obtained 350 pounds of the nicest honey I ever saw—so nice that by taking some 85 pounds of it to the Delaware County Fair, I secured the first premium, much to the surprise of some older bee-men who had heretofore captured it. I have sold about 300 pounds of my honey at 20 and 25 cents per pound—the most of it being sold for 25 cents per pound—and I have had many calls for honey since I sold all I had for sale. I must tender my thanks to the BEE JOURNAL, for from its pages I learned all that I know about keeping bees.

Bees in Winter Quarters.—E. T. Jordan, Harmony,+⊙ Ind., on Dec. 4, 1885, writes:

Last spring I began with 6 colonies, sold one, and bought 8 colonies of black bees in box-hives, which I transferred to the Langstroth hive and Italianized. I secured 250 pounds of comb and extracted honey, and increased my apiary to 42 colonies, by division. They were fed one barrel of sugar syrup in the fall, and the hives packed on the sides and top with chaff cushions. I put them into the bee-room on Nov. 27. It is a double-walled room filled in with 8 inches of sawdust. The mercury has not been below 43° in it yet.

◆

Convention Notices.

☞ The annual Convention of the Indiana State Bee-Keepers' Society will be held at Indianapolis, Ind., on Jan. 20 and 21, 1886. The meetings of this Society have been very successful in the past, and the coming meeting promises to be still better. The meeting will be held in the rooms of the State Board of Agriculture, and it is one of a series of meetings held by the different Societies of the State, which pertain to the specialties of Agriculture, viz., Dairying, Wool-Growing, Swine-Breeding, Poultry-Raising, etc. Reduced rates are offered at Hotels, and everything possible will be done to make the meeting entertaining and instructive. A very complete program is being prepared, with ample time to discuss the important subjects of particular interest to bee-keepers. A cordial invitation is extended to all bee-keepers, with the hope that they will attend, and thus make the Convention of still greater importance.

FRANK L. DOUGHERTY, *Sec.*

☞ The annual meeting of the Cortland Union Bee-Keepers' Association will be held in Union Hall at Cortland, N. Y., on Jan. 12, 1886, at 10 a.m. It is hoped that all interested in apiculture will make an extra effort to be in attendance at this meeting. Those unable to attend this meeting are requested to send to the Secretary, reports of their apiaries from May 1, 1885, to Dec. 1, 1885.

W. H. BEACH, *Sec.*, Cortland, N. Y.

☞ The annual meeting of the Northwestern Illinois and Southwestern Wisconsin Bee-Keepers' Association will be held in Freeport, Ills., on Tuesday, Jan. 19, 1886.

JONATHAN STEWART, *Sec.*

☞ The annual meeting of the Champlain Valley Bee-Keepers' Association will be held in Middlebury, Vt., on Jan. 21, 1886.

R. H. HOLMES, *Sec.*

☞ The next meeting of the Maine Bee-Keepers' Association will be held at Skowhegan, Me., on Jan. 19, 20 and 21, 1886. The Maine Central R. R. will sell tickets at one fare for the round trip. The Grand Trunk R. R. will sell tickets at the same rate to Lewiston, Me., to all who attend the meeting. Bee-keepers everywhere are cordially invited to be present.

WM. HOYT, *Sec.*

◆

Are you Entitled to a pension? You may be and may not know it. If you examine the Guide and Hand-Book you will soon find out. Thousands of things worth knowing will be found in it. The BEE JOURNAL for 1886 and the Guide Book will both be sent for $1.30.

OUR CLUBBING LIST for 1886.

We supply the **American Bee Journal** for 1886, and any of the following publications, at the prices quoted in the last column of figures. The first column gives the regular price of both. All postage prepaid.

	Price of both.	*Club*
The American Bee Journal	1 00	
and Gleanings in Bee-Culture	2 00	1 75
Bee-Keepers' Magazine	2 00	1 75
Bee-Keepers' Guide	1 50	1 40
The Apiculturist	2 00	1 75
Canadian Bee Journal	2 00	1 75
Texas Bee Journal	2 00	1 75
The 7 above-named papers	6 50	5 50
and City and Country	2 00	1 50
New York Independent	4 00	3 30
American Agriculturist	2 50	2 25
American Poultry Journal	2 25	1 75
and Cook's Manual	2 25	2 00
Bees and Honey (Newman)	2 00	1 75
Binder for Am. Bee Journal	1 75	1 60
Apiary Register—100 colonies	2 25	2 00
Dzierzon's Bee-Book (cloth)	3 00	2 00
Dzierzon's Bee-Book (paper)	2 50	2 00
Quinby's New Bee-Keeping	2 50	2 25
Langstroth's Standard Work	3 00	2 75
Root's A B C of Bee-Culture	2 25	2 10
Alley's Queen-Rearing	2 50	2 25
Farmer's Account Book	4 00	3 00
Guide and Hand-Book	1.50	1 30

◆

Honey as Food and Medicine.

☞ To create Honey Markets in every village, town and city, wide-awake honey producers should get the Leaflets "Why Eat Honey" (only 50 cents per 100), or else the pamphlets on "Honey as Food and Medicine," and scatter them plentifully, and the result will be a DEMAND for all of their crops at remunerative prices. "Honey as Food and Medicine" are sold at the following prices:

Single copy, 5 cts.; per doz., **40** cts.; per hundred, **$2.50.** Five hundred will be sent postpaid for **$10.00**; or **1,000** for **$15.00.** On orders of **100** or more, we will print, if desired, on the cover-page, "Presented by," etc. (giving the name and address of the bee-keeper who scatters them).

To give away a copy of "Honey as Food and Medicine" to every one who buys a package of honey, will sell almost any quantity of it.

◆

System and Success.

☞ All who intend to be systematic in their work in the apiary, should get a copy of the Apiary Register and commence to use it. The prices are as follows:

For	50 colonies (120 pages)	$1 00
"	100 colonies (220 pages)	1 25
"	200 colonies (420 pages)	1 50

The larger ones can be used for a few colonies, give room for an increase of numbers and still keep the record all together in one book, and are therefore the most desirable.

◆

The Guide and Hand-Book, is a book of ready reference and an encyclopædia of everything desirable to know. As a guide to the home-seeker, it is invaluable. Its contents are partially given on page 800, and will convince any one of its value. We do not think any of our readers can afford to do without it. As a book of ready reference we find it of great value in our library. We will send the Weekly BEE JOURNAL for a year and the Guide for $1.30.

◆

Any person not a subscriber, receiving a copy of this paper, will please consider it an invitation to become a subscriber to it.

WEEKLY EDITION
OF THE
AMERICAN
ESTABLISHED IN 1861
OLDEST BEE PAPER IN AMERICA
BEE JOURNAL
PUBLISHED BY
THOMAS G. NEWMAN & SON,
PROPRIETORS,
923 & 925 WEST MADISON ST., CHICAGO, ILL.

ALFRED H. NEWMAN,
BUSINESS MANAGER.

Special Notices.

SPECIAL NOTICE.—On January 1, 1886, the price of the Weekly BEE JOURNAL will be reduced to *One Dollar a Year.* This we have contemplated for some years, and only awaited the proper time to warrant us in issuing the Weekly BEE JOURNAL at the very low price of *one dollar* a year. That time has now come. We shall continue to improve the BEE JOURNAL, and it will maintain its proud position as the leading bee-paper of the World!

◆

"Don't Stop"—that is what many write to us about their papers, when their time is nearly out. One subscriber says: "This has been a year of disaster, and it is not convenient for me to send you the money now to renew my subscription. It runs out with this month; *but don't stop sending it.* I will get the money to you within three months." Such letters are coming every day, and so for the present we have concluded not to stop any papers until requested to do so.

◆

Comb Honey Wanted.—We have an opportunity to sell several thousand pounds more of Choice White Comb Honey in 1-lb. sections—on commission. Those who have such for sale are invited to correspond with us—stating particulars, including the price desired.

◆

The Western World Guide and Hand-Book of Useful Information, contains the greatest amount of useful information ever put together in such a cheap form. The printing, paper, and binding are excellent, and the book is well worth a dollar. To any one sending us two *new* subscribers besides their own, with $3, for one year, we will present a copy of this valuable book.

◆

☞ **Sample Copies** of the BEE JOURNAL will be sent FREE upon application. Any one intending to get up a club can have sample copies sent to the persons they desire to interview by sending the names to this office, or we will send them all to the agent.

Honey and Beeswax Market.

Office of the AMERICAN BEE JOURNAL,
Monday, 10 a. m., Dec. 14, 1885.

The following are the latest quotations for honey and beeswax received up to this hour:

CHICAGO.

HONEY.—The market is without special change since last quotations. White comb honey in one-pound sections brings 15@16c. A little fancy sells at 17c. in a small way. Dark comb honey sell slowly. Nearly all of the white comb honey comes from the East. Extracted is held firmly at from 6@8c.

BEESWAX.—25c.

R. A. BURNETT, 161 South Water St.

BOSTON.

HONEY.—It is selling very well but prices are very low, and we are often obliged to shade our prices in order to make rates. We quote comb honey in 1-lb. sections at 14@16c., and 2-lb. sections at 12@14c. Extracted, 6@8c.

BEESWAX.—30 cts. per lb.

BLAKE & RIPLEY, 57 Chatham Street.

NEW YORK.

HONEY.—The market for comb honey is quite active, and the demand nearly equal to the supply. Prices are gradually shading, owing to the fact of many producers selling their entire crop in this city at very low prices, thereby enabling the purchasers to sell low and realize a handsome profit. Large lots have been sold here at 9@10c. for fancy goods. In consequence of no honey coming in from the West, we can see no reason why good prices should not be obtained, except as above stated. Present quotations are: Fancy white 1-lb. sections, 14@15c.; the same in 2-lb. sections, 11½@12½c.; fancy buckwheat honey in 1-lb. sections 11@12c.; in 2-lbs., 9@10c. Off grades 1 to 2c. less.

BEESWAX—Prime yellow, 25@28c.

MCCAUL & HILDRETH BROS., 34 Hudson St.

CINCINNATI.

HONEY.—There is a very slow demand from manufacturers, for extracted honey, with a large supply on the market, while the demand is very good for clover honey in square glass jars. Prices for all qualities are low and range from 4@8c. a lb. Supply and demand is fair for choice comb honey in small sections, which brings 12@15c. per lb.

BEESWAX.—Good yellow is in good demand, and arrivals are fair, at 20@22c. per lb.

C. F. MUTH, Freeman & Central Ave.

SAN FRANCISCO.

HONEY.—Choice comb honey is in light supply and is bringing firm figures. There is a fair movement in best qualities of extracted at steady rates. We quote as follows: White to extra white comb, 10@12½c.; amber, 7@8c. Extracted, white liquid, 5¼@5½c.; light amber colored, 4½@4¾c.; amber and candied, 4½c.; dark and candied, 4@4¼c.

BEESWAX.—Quotable at 23@25c., wholesale.

O. B. SMITH & Co., 423 Front Street.

CLEVELAND.

HONEY.—The market since our last report has improved very much and there is a good opening for very choice white 1-lb. sections, for which 14@15c. is obtained. Our stock of new is very light at present but of the old we have a good supply which we sell at 10@13c. for white 1-lb. sections. Extracted honey is slow at 6@7c. for best white clover and basswood.

BEESWAX.—Very scarce at 20@22c.

A. C. KENDEL, 115 Ontario Street.

KANSAS CITY.

HONEY.—The demand for honey begins to sag under the present comparatively high prices, and recent warm weather, though choice 1-lb. sections are still scarce and pretty well taken up at 16@17c. We think, however, that the top is reached and any change will be lower prices. Two-lb. sections are selling at 12½@15c. Extracted, dark, 4@6 cts.; white, 7@8c.

BEESWAX,—22½@25c.

CLEMONS, CLOON & CO., cor. 4th & Walnut.

◆

To Correspondents.—It would save us much trouble, if all would be particular to give their P. O. address and name, when writing to this office. We have several letters (some inclosing money) that have no name; many others having no Post-Office, County or State. Also, if you live near one post-office and get your mail at another, be sure to give the address we have on our list.

◆

A few Binders for the Monthly (two columns on a page) are left. We will mail them for **30 cents** each, to close them out. They are not large enough for either the Weekley or the Monthly of the present size—three columns on a page.

Beeswax Wanted.—We are now paying **23** cents per pound for good, average, yellow Beeswax, delivered here. Cash on arrival. Shipments are solicited. The name of the shipper should be put on every package to prevent mistakes.

◆

Agents can sell the Guide and Hand-Book like "hot-cakes." Send us an order for five copies (with $2.50) and we will send you the Weekly BEE JOURNAL *free* for a year. This is a *rare* opportunity to get the Weekly BEE JOURNAL without cost!!

Advertisements.

HONEY

WE are now in the market, and will be during the entire season, for all honey offered us, in any quantity, shape, or condition—just so it is pure. We will sell on commission, charging 5 per cent.; or, if a sample is sent us, we will make the best cash offer the general market will afford. We will handle beeswax the same way, and can furnish bee-men in quantities, crude or refined, at lowest market prices. Mr. Jerome Twichell, our junior member in this department, has full charge, which insures prompt and careful attention in all its details.

Sample of comb honey must be a full case, representing a fair average of the lot. On such sample we will make prompt returns, whether we buy or not.

CLEMONS, CLOON & CO.,
36A17 KANSAS CITY, MO.

NEW ONE-POUND HONEY PAIL.

THIS **new size** of our Tapering Honey Pails is of uniform design with the other sizes, having the top edge turned over, and has a bail or handle,—making it very convenient to carry. It is well-made and, when filled with honey, makes a novel and attractive small package, that can be sold for 20 cents or less. Many consumers will buy it in order to give the children a handsome toy pail. **PRICE, 75 cents per dozen, or $5.00 per 100.**

THOS. G. NEWMAN & SON,
923 & 925 West Madison Street, CHICAGO, ILL.

$200,000 *in presents given away.* Send us 5 cents postage, and by mail you will get *free* a package of goods of large value, that will start you in work that will at once bring you in money faster than anything else in America. All about the $200,000 in presents with each box. Agents wanted everywhere, of either sex, of all ages, for all the time, or spare time only, to work for us at their own homes. Fortunes for all workers absolutely assured. Don't delay. H. HALLETT & Co.
1A1y Portland, Maine.

Bee-Keepers' Badges at Fairs.

We have some **ELEGANT RIBBON BADGES**, having a rosette and gold Bee, for bee-keepers' use at Fairs, Conventions, etc. Price 50 cents each, by mail, postpaid.

THOMAS G. NEWMAN & SON,
923 & 925 West Madison St., CHICAGO, ILL.

Use the boss Zinc and Leather Interfering Boots and Collar Pads. They are the best.
45D6t

HEADQUARTERS IN THE SOUTH
For the manufacture of
Bee-Keepers Supplies
Dunham and Root Foundation a specialty.
Italian Queens and Bees from March to November.
☞ Send for my Illustrated Catalogue.
5Ctf **PAUL L. VIALLON**, Bayou Goula, La.

HONEY FOR SALE!

Well-ripened, bright BASSWOOD extracted HONEY, at the following low price, **for CASH with the order:**

100 Pound Kegs (net) each............$8 00
50 " " " " 4 00

☞ Free on board CARS, and no charge for kegs. Shipments prompt.

I also have on hand several thousand pounds of mixed honey, of about equal parts of basswood and fall flowers, which may be called AMBER HONEY, that I will sell as above, at 1 cent less per pound.

Address, **JAMES HEDDON,**
DOWAGIAC, Cass County, MICH.

AMERICAN INVENTOR,

A JOURNAL FOR

The Inventor, Mechanic and Mannfactnrer.

SUBSCRIPTION, $1 PER YEAR.

Each number is replete with articles on **Patent Law, Invention, Mechanics, Art, Science, Manufactures, etc.**

Agents wanted; liberal pay; write for terms.

Best Advertising Medium of its class.—Send for sample copy and advertising rates.

Address, **AMERICAN INVENTOR,**
188 *West Fifth St., CINCINNATI*, O.

Dadant's Foundation Factory, wholesale and retail. See Advertisement in another column.

FLAT-BOTTOM COMB FOUNDATION,

high side-walls, 4 to 16 square feet to the pound. Circular and samples free

J. VAN DEUSEN & SONS,
Sole Manufacturers,
Sprout Brook, Mont. Co., N. Y.

PATENTS

CAVEATS, TRADE MARKS, LABELS and COPY-RIGHTS promptly secured for United States and Foreign Countries. Patents Negotiated. **INVENTOR'S MANUAL,** a 70-page book, showing How to Procure and Sell Patents, sent free. All Patents procured through this Agency described in the **AMERICAN INVENTOR.** AMERICAN PATENT AGENCY,
188 & 190 W. Fifth St., Cincinnati, Ohio.

WIN more money than at anything else by taking an agency for the best selling book out. Beginners succeed grandly. None fail. Terms free. HALLETT BOOK CO.
51A1y Portland, Maine.

Dadant's Foundation Factory, wholesale and retail. See Advertisement in another column.

ELECTROTYPES

Of Engravings used in the Bee Journal for sale at 25 cents per square inch—no single cut sold for less than 50c.

THOS. G. NEWMAN & SON,
923 & 925 West Madison St., CHICAGO, ILL.

Dadant's Foundation Factory, wholesale and retail. See Advertisement in another column.

EVERY MAN who desires to become his own Printer at a remarkably low original cost, can do so HIS OWN PRINTER by getting our circular free. New plan; just what firms need.

L. ZERBE, 188 W. 5th St., Cincinnati, O.

THE BRITISH BEE JOURNAL
AND BEE-KEEPER'S ADVISER.

The BRITISH BEE JOURNAL is published every Week, at Ten Shillings and 10d. per annum, and contains the best practical information for the time being, showing what to do, and when and how to do it. It is edited by T. W. Cowan, Esq.

The British Bee Journal and our Weekly for $3.50.

Bee-keepers' Supplies,

Standard Langstroth,

Quinby Standing-Frame,

And all other kinds of **Hives,**
MADE TO ORDER.

Quinby Smoker a specialty.

I shall supply anything you need in the Apiary. Send for Illustrated Price List.

W. E. CLARK, successor to L. C. Root,
7A1y ORISKANY, Oneida County, N. Y.

THE INVERTIBLE HIVE!

INVERTIBLE FRAMES,

Invertible Surplus Honey Cases,
Entrance Feeders, Top and Bottom Feeders,
Hive-Lifting Device, Honey Extractors,
Wax Extractors, Comb Foundation, etc.

☞ My new Illustrated Catalogue is now ready, and will be mailed to all who may apply for it. Address,

J. M. SHUCK,
DES MOINES, IOWA.
10A1y

Muth's Honey Extractor,

Square Glass Honey Jars, Tin Buckets,

Langstroth Bee-Hives, Honey-Sections, etc.

Apply to **CHAS. F. MUTH,**
Freeman & Central Ave., - CINCINNATI, O.

☞ Send 10c. for Practical Hints to Bee-Keepers.

Wooden Pails for Honey!

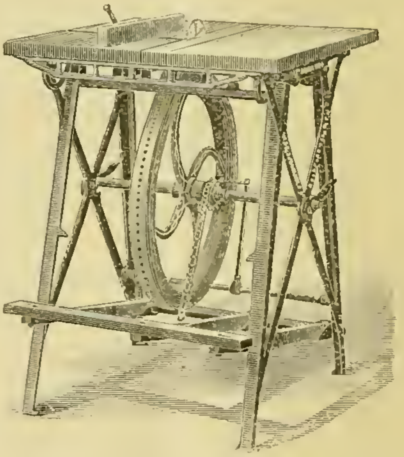
WE can furnish regular Wooden Water-Pails—well painted on the outside, and with 3 iron hoops and a tight-fitting wood cover, at **$2.25** per dozen. They will hold **25** lbs. of honey, and when empty, can be utilized for use as an ordinary household pail.

THOS. G. NEWMAN & SON,
923 & 925 West Madison Street, CHICAGO, ILL.

New Saw for Hive-Making.

Learning that the Barnes' Saw has been much improved for next season's operations, we sent to them for a description, so that those who intend to make their own hives might see a cut of it and learn what its improvements consist in. Here is what the manufacturers say of it:

The new Machine is the result of many years' experience and thought in this direction. The old Combined Machine, on the whole, gave good satisfaction to bee-keepers. There were, however, some weak points about the Machine which we desired to eradicate, and we believe that in the new Machine we have surmounted the difficulties. It is stronger and stiffer in every way than was the old Machine, and is capable of a larger range of work.



One of the strongest points of the new Machine is in the matter of the Belt. The belting arrangement is such that friction is reduced to the minimum, and at the same time there is absolutely no chance of the Belt slipping. All will therefore readily perceive that this feature makes the Machine capable of a great deal of work at the least possible expenditure of physical power and exertion.

The Machine embraces, as heretofore, Scroll and Circular Saw, although either of these can be taken independent of the other, if desired.

These Machines are sold on the same terms and at the same price as before the improvements were made, viz: $35.00 for Circular Saw including 1 rip and 1 cross-cut saw. Catalogue free. For sale by

THOS. G. NEWMAN & SON,
923 & 925 West Madison St., CHICAGO, ILL.

HELP for working people. Send 10 cents postage, and we will mail you *free*, a royal, valuable sample box of goods that will put you in the way of making more money in a few days than you ever thought possible at any business. Capital not required. You can live at home and work in spare time only, or all the time. All of both sexes, of all ages, grandly successful. 50 cents to $5 easily earned every evening. That all who want work may test the business, we make this unparalleled offer: To all who are not well satisfied we will send $1 to pay for the trouble of writing us. Full particulars, directions, etc., sent free. Immense pay absolutely sure for all who start at once Don't delay. Address STINSON & CO.
51A1y Portland, Maine.

WEEKLY EDITION
OF THE
AMERICAN
ESTABLISHED IN 1861
OLDEST BEE PAPER IN AMERICA
BEE JOURNAL

THOMAS G. NEWMAN,
EDITOR.

Vol. XXI. Dec. 23, 1885. No. 51.

APICULTURAL NEWS ITEMS.

EDITORIAL AND SELECTED.

Christmas will be here by the time this JOURNAL reaches its subscribers. It wishes "peace and good-will" to ALL — with the usual "compliments of the season."

One More Number will complete the AMERICAN BEE JOURNAL for 1885. Now is the time to renew subscriptions, and send an extra name or two with your own and secure a premium. We have some colored Posters, which we will send FREE, to put up in conspicuous places. We will with pleasure send sample copies to any one who will try to get up a club.

The Weather.—In order to know what the predictions are for weather, we advise our readers to subscribe for *The Future*, published by Prof. C. C. Blake, at Richland, Kans., at $1.00 a year. He has been remarkably correct in his predictions during the past autumn and early winter.

Mr. O. J. Hetherington, of East Saginaw, Mich., one of the most successful honey-producers of that State, has sent one of his hives to our Museum. The frames may be reversed by an ingenious contrivance of his own. The metal ears are alike on the top and bottom of the frames, and rest on a projecting piece of sheet-iron at the bottom of the hive. The bottom-board is loose, and is held firmly to the body of the hive by Quinby clamps. It also has a movable side, which is also held in place by clamps. It is placed in our Museum to be examined by our visitors.

The Detroit Convention Report occupies nearly all the space in this issue of the BEE JOURNAL. We have now published 47 columns of it. There are about 15 more which we hope to give next week, in order to close it up this year. The essays omitted are mainly those we did not obtain at the Convention, but hope to have copies of them in time for our next issue. We shall then have published over 60 columns (or twenty pages) of the report; the fullest report that has ever been given to the public in any bee-paper in the world. We hope it will be appreciated by our readers, for it certainly was the most enthusiastic Convention ever held in America.

Bees that are Packed in Cellars or winter repositories, says the *Indiana Farmer*, should be kept as quiet as possible at all times. When disturbed in any way, bees fill themselves with honey which has a tendency to create diarrhea. Very great injury may be done by a few careless knocks against the hives. So long as the bees are perfectly quiet, they should be left entirely to themselves, but should they become restless and uneasy they must be put out the first warm day, to have a cleansing flight, and be sure that the colonies occupy the same stands from which they were removed when placed into winter quarters.

Now, while the mind is fresh with the experience of the past, is the best time to lay out the plans for the next season's work. The best results come from the knowledge gained by the experience of the past. A very great trouble with many of us, is that we wait too long with contemplated improvements. Our own experience teaches that the bee-keeper had better be weeks ahead than one day behind. There is no other way to succeed than to be ready at the right time. Plans should be laid now, and gradually worked to completion as the season approaches.

Funny.—The Detroit *Tribune* of Wednesday, Dec. 9, 1885, contains this "funny" item in connection with its report of the Continental Bee-Keepers' Convention:

> The Rev. Mr. Langstroth, of Oxford, O., is an old bee-benefactor, having studied their ways to such an extent that he can anticipate their wants. He invented the three-story bee mansion so popular in apiarian circles, in which the bee can retire to his closet when he feels like depositing in his bank without disclosing the size of his roll to envious neighbors. Each bee also has the combination to his own safe, and burglarious drones are often hustled before the queen for punishment for breaking and entering.

Concerning the hall where the Convention was held, it says:

> It may be just as well to state right here that an apiary is not a place for keeping apes, but bees. Red Men's Hall, where the Convention met, was filled to the brim with those interested in the small but ambitious bee. The red men were very peaceable, their war whoops hanging on nails about the walls.

Bees and Horticulture. — Mrs. L. Harrison, in the *Prairie Farmer*, remarks thus on the bond of union that should exist between bee-keepers, fruit-growers, horticulturists, etc.

> There appears to be a growing antagonism between bee-culturists, horticulturists and stock-raisers. Why should this be? Are they not brethren? And does not the prosperity of one aid in the advancement of the others? The horticulturist may dig, graft, and bud, and what will the returns be without the labors of the bee? The Creator has provided no other means for the fertilization of flowers but the visits of insects, and there are no other insects at this time of year to flit from flower to flower. The body of the honey-bee is wisely adapted to this purpose, being covered with fine hairs, invisible to the naked eye, which brush off and carry the fertilizing powder to the germ that requires it. The fruit sets better, even when the tree has perfect flowers, containing both pistils and stamens, if pollen from another flower, or better still, from another tree, is brushed upon its germ. Who has not observed that a long-continued rain-storm, occurring during fruit bloom, in preventing these little messengers from their rounds, is followed by a failure of fruit?

As a Source of Honey, the goldenrod yields abundantly. It is surprising to think that all about us, in the pastures and by the roadsides, thousands of pounds of a most delicious honey go to waste every year. This plant yields honey in September, after most other honey-plants are sere and dry.—*Lewiston, Me., Journal.*

Frank Leslie's Sunday Magazine for January, beginning the Nineteenth Volume, is a brilliant holiday number, abounding in text and pictures appropriate to the season. It opens with an interesting and instructive essay on "Christmas Carols." Dr. Talmage's sermon is on "Christmas in America," and there are several Christmas and New Year's stories and poems, all finely illustrated. Perhaps the article that will attract the most attention is "Prehistoric America," by Rev. Geo. T. Rider, with twenty-two illustrations. There are many short and timely articles, and the full-page pictures are beautiful and numerous. The regular serials, "Love's Harvest," and "Dilettante Days" go on, and the Editorial Departments are full and complete. Published by MRS. FRANK LESLIE, 53, 55, and 57 Park Place, New York city, at 25 cents a number, or $2.50 a year, postpaid.

Many Thanks are due to our friends for sending us so many *new* subscribers, when renewing their own subscriptions. The reduced price for 1886 has caused quite "a boom," and is a *popular* move in every sense of that word. As we do not wish any one to work for nothing, we have concluded to offer premiums for *new* subscribers for 1886, for in order to compensate for the reduction of our price to $1.00, we should at least *thribble* our present subscription list.

For 1 *new* subscriber for a year (besides your own renewal) we will *present* you either of the following books—25 cents each.

For 2 *new* subscribers—any 2 of the books.

For *new* subscribers—all 3 of them; *or* the Western World Guide & Hand-book.

For 4 *new* subscribers—Bees and Honey, ($1.)

Gaskell's Hand-book of Useful Information —a very handy book of 64 pages.

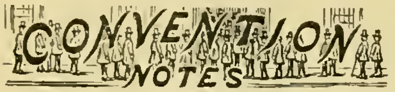
Architecture Simplified; or, How to Build a Dwelling-house, Barn, etc., giving plans, specifications and cost—60 pages.

Look Within for 5,000 facts which every one wants to know—75 pages.

The Time for Reading has now come. The long winter evenings can be utilized by reading up bee-literature. We have all the newest bee-books and can fill all orders on the day they are received.

When Renewing your subscription please try to get your neighbor who keeps bees to join with you in taking the BEE JOURNAL. It is now *so cheap* that no one can afford to do without it. We will present a **Binder** for the BEE JOURNAL to any one sending us four subscriptions—with $4.00—direct to this office. It **will pay** any one to devote a few hours, to get subscribers.

To Correspondents. — It would save us much trouble, if all would be particular to give their P. O. address and name, when writing to this office. We have several letters (some inclosing money) that have no name; many others having no Post-Office, County or State. Also, if you live near one post-office and get your mail at another, be sure to give the address we have on our list.



North American Bee-Keepers' Society.

SECOND DAY—WEDNESDAY.

AFTERNOON SESSION.

The convention was called to order at 2 p.m., Pres. Root in the chair.

Officers were elected, as follows, for the ensuing year:

PRESIDENT—H. D. Cutting, Clinton, Mich.

RECORDING SECRETARY—Frank L. Dougherty, Indianapolis, Ind.

CORRESPONDING SECRETARY—Mrs. Cass Robbins, Indianapolis, Ind.

TREASURER—C. F. Muth, Cincinnati, O.

VICE-PRESIDENTS:

Alabama—Nelson Perkins, Princeton.
Arkansas—Geo. B. Peters, Peters.
Arizona—Jas. H. Brown, Prescott.
British Columbia—U. Spears, New Westminster.
California—R. Wilkin, San Buenaventura.
Colorado—Philip Reardon, Jamestown.
Connecticut—H. L. Jeffrey, Washington Depot.
District of Columbia—Rev. J. A. Buck, Washington.
Dakota—J. H. Townley, Ashton.
Delaware—Geo Remington, Wilmington,
Florida—W. S. Hart, Hawk's Park.
Georgia—Dr. J. P. H. Brown, Augusta.
Illinois—Mrs. L. Harrison, Peoria.
Indiana—J. Scholl, Indianapolis.
Iowa—J. M. Shuck, Des Moines.
Kansas—Chas. Smith, Marysville.
Kentucky—J. M. Egbert, Salvisa.
Louisiana—P. L. Viallon, Bayou Goula.
Maine—J. B. Mason, Mechanic Falls.
Manitoba—Hon. J. H. Wallbridge, Winnipeg.
Massachusetts—S. M. Locke, Wenham.
Michigan—Miss Lucy Wilkins, Farwell.
Missouri—E. M. Hayhurst, Kansas City.
Mississippi—Dr. O. M. Blanton, Greenville.
Minnesota—C. F. Greening, Grand Meadow.
Maryland—Dr. W. G. Phelps, Galena.
Montana—Chas. Bruce, Wickes.
Nebraska—T. L. VonDorn, Omaha.
Nevada—A. A. Leeper, Carson City.
New Jersey—E. Terryberry, Highbridge.
New York—Ira Barber, DeKalb Junction.
North Carolina—H. H. Watson, Sladesville.
Nova Scotia—C. T. Jones, Waterville,
New Hampshire—M. Harie, Keno.
Ohio—A. I. Root, Medina.
Ontario—J. B. Hall, Woodstock.
Pennsylvania—Arthur Todd, Germantown.
Prince Edw. Island—Jas. Gourlie, Summerside.
Quebec—H. F. Hunt, Quebec.
Rhode Island—Wm. J. Tracy, Burrillville.
South Carolina—S. C. Boylston, Charleston.
Tennessee—W. P. Henderson, Murfreesboro.
Texas—W. H. Andrews, McKinney.
Utah—John Morgan, Salt Lake City.
Virginia—J. W. Porter, Charlottesville.
Vermont—A. E. Manum, Bristol.
West Virginia—A. W. Cheney, Kanawha, Falls.
Wisconsin—Christopher Grimm, Jefferson.
Wyoming—James Fields, Fort Laramie.
Washington—H. A. Marsh, Fidalgo.

[As a mistake was made in one of the names last week, we republish all of them.—ED.]

A letter read by Mrs. L. Harrison, from Mrs. Sarah J. Axtell, Roseville, Ills., conveying her salutations to the Society, and detailing her experience as a bee-keeper, was referred to the committee on resolutions.

An essay on "Selling and shipping bees by the pound," by Mr. E. M. Hayhurst, of Kansas City, Mo., was read.

A. I. Root—I do not think the letter extravagant; such reports are quite frequent. The original half-pound of bees that Mr. Hayhurst sent me was put upon combs, and made so strong a colony that it was, I believe, divided in the fall. We must have young bees, and the bee-keeper must be an expert. Mr. Root then described what could be done in a single season with a half-pound of bees and a fertile queen in May.

There was general concurrence in the utility and convenience of selling bees by the pound.

Mr. A. I. Root, of Medina, O., then read the following on

EXCELLENCE OR CHEAPNESS—WHICH?

I do not know but that this subject was given me because some of the brethren think I have been a little too eager to recommend cheap tools and appliances; and may be they thought I would defend my side of the subject while somebody else would take up excellence rather than cheapness. Now, it seems to me that wisdom and experience should guide us in this matter, and that we cannot very well lay down general rules for purchasing bee-supplies, or for purchasing anything else, in fact. Isaiah tells us, in his first chapter, to "learn to do well;" that is, doing well is progressive; and I should also say, learn to purchase wisely. If you have a little money that you want to invest in bee-supplies, do not be in a hurry to get rid of it all. It is said that "through wisdom is a house builded;" and I should say, "through wisdom" we make prudent purchases.

Suppose a boy is large enough to need a knife. What kind of a knife should he purchase—a five-cent knife or a two-dollar knife? Why, I should say it depends upon who the boy is, his age, and what he wants to do with the knife. But with the average boy, I think it would be a pretty good idea to try the cheap knife first. Even if he has laid up a couple of dollars to buy a pocket-knife, I think he will get more satisfaction by trying a cheap one first than by trying the two-dollar one first. If the cheap one does not please him, nor answer his requirements, it would not be very much expense to give it to some other boy, and try a little better one. Let him carefully examine and test each knife he buys, until he becomes a tolerably good judge of knives, and is able to purchase understandingly.

There are a great many people—and good people too—who have a way of saying, in regard to every purchase that comes up, "The best is the cheapest." A good deal depends upon what you mean by *best.* Suppose you want a hammer. There are hammers in the market for only five cents. They are not loose nor rickety either, for they are made all of one piece of iron; and although they may be awkward and cheap-looking, they will do a vast amount of service for many kinds of work. They cost so little that if somebody borrows one, or loses it, it does not matter much; and I have found it quite convenient to have these cheap hammers scattered all around the premises. We have one down in the barn, and one in the stable out in the lots. The children have them to crack nuts; and, in fact, their are so many of them on the premises that whenever you want some sort of hammer for just a minute, you can almost always get hold of one of these, without going a great way or hunting very long.

But, do you think I would give a good mechanic such a hammer to put up hives with? By no means. In putting up hives he uses a hammer almost constantly; and if I could find a hammer *worth* five dollars, I would give it to him without hesitation; for if it were worth only a cent a day to him more than a cheap hammer, it would soon pay for itself. For this same reason a good mechanic ought to have at least three hammers, and three good ones. Now, when I say I would give a hammer worth five dollars if I could find it, I do not mean that I would buy one that is silver-plated, or has inlaid work in the handle, and things of that sort; neither would I give him a hammer that had a great amount of unimportant work put on it. One of our large railroad companies paid $60 (I think it was) for a dozen hammers to be used by some of their expensive men. These hammers were all worked out by hand, and were very handsomely made. I do not believe it will pay many bee-keepers to use tools or appliances made in this way. When he becomes so well off in producing honey and bees that he has some money he really does not know what to do with (I wonder if there are any such here to-day), it may be just the thing for him to do, to buy a six-dollar hammer to make hives with, because, you know, "the best is always the cheapest."

Suppose somebody of limited means wants to try bee-keeping. What kind of a colony of bees should he buy? Without knowing anything about the general habits of the man or woman, I would say, let them get the cheapest colony of bees that could be found in the neighborhood, thus saving expensive transportation charges, and also making their purchases of friends and neighbors. Then I would advise getting an Italian queen; but as I have said before, if one is new at the business, and, may be, likely to make blunders at first, I would tell him to get an untested queen. After he introduces her all right, and she begins to lay, if she does not turn out well in every way, let him try a higher-priced one next time, working progressively; and my experience convinces me that the best way in the world to get anything of this kind is to get it progressively. *Learn* to do well, not undertake to come up to the highest standard all at once. There is far more enjoyment in making a little more improvement every day, than in stepping into great things, even if it could be done. The same with hives, I would first get a cheap hive. When winter comes, get a hive suitable for winter, even if it does cost a little more; but save the old hive for the increase when spring comes again.

If you are going to make hives, start out with few tools and purchase judiciously each season, as you find you really need to. Do not get anything to be put away on the shelves until you may need it. Purchase what you need, and no more, until you have pretty surely demonstrated that it would be prudence to purchase larger lots for the sake of getting better prices. If you have worked with comb foundation enough to know that you want to use it largely, you can, from past experience, usually figure out how many colonies you will need to have, to think of buying a foundation machine.

There is another point to be considered right here. Sometimes cheap tools and cheap machinery make us so much bother and worry that they spoil all the pleasure of trying to keep bees; whereas a high-priced tool or a high-priced machine would go right along, without any hitch or accident, in such a way that the work would be only pastime or "fun." Where one's time is valuable, or where he already has many cares and responsibilities, nice tools or nice machinery, all in perfect working order, is by all means the most satisfactory, and, I believe, the most profitable. This latter point comes in more with tools or machinery that is necessarily somewhat complicated. We had some experience in this line in making and sending out rubber plates for making foundation. While we made the machines work nicely in the factory, and while a few of our customers were pleased with them, the majority found there were so many conditions to be observed, and the whole arrangement was so uncertain in its results, that I have always regretted that I advised anything of the sort. The same remarks will apply with force to home-made honey-extractors. We have for years sold the inside work, so that the friends who wanted to economize could save something by attaching them to an ordinary tin-can or barrel; but as a rule, I believe they found it more vexation of spirit, and perhaps more expense in the end, than to have purchased an extractor all ready for use. Where one has a great many bees, and a good market for extracted honey, perhaps an automatic extractor will be found to be cheaper than any other.

In regard to bee-feeders: My experience has been in favor of something very plain and simple. One of our bee-friends once made a remark in jest in one of the bee-papers, that every bee-feeder and bee-hive, according to his notion, ought to have "cog-wheels," slides, and levers, somewhere about them. Now, "cog-wheels" work very nicely in a warm room on a winter's day; but when you get out in the apiary, among the bees, about harvest time, when everything is crowding, these cog-wheels seem to be somehow out of place. Let us have our implements plain, simple, and substantial; let us pay enough for them to have everything exactly as it should be—hives and frames interchangeable—everything so that it will work easily and surely; no sticking, nor jamming, nor pounding, to get things in place.

In regard to utensils for honey: I believe the demand seems to be in favor of cheapness—tin pails that are to be given away, as well as crates to hold comb honey. Sell the honey for so much, package and all. But even though we give them away, let us have them well enough made to be sure there will be no leaking nor daubing.

In regard to honey-knives: I would advise, as I advised the boy with his first pocket-knife. If you have few bees, and do not expect to go into the business largely, you can make a 10-cent garden-trowel do your uncapping very well for quite a while. When you need a better uncapping-knife, get it.

In regard to perforated zinc and things of this sort, do not include any in your first purchase. Wait until you feel the need of such new implements. May be you will never need them at all.

Even though I advise economy in purchases, I would have everything painted that stands out in the weather. If you say you cannot afford it, I would have half the number of hives, and have them protected from the weather by paint, rather than increase so fast, and have the weather constantly spoiling my implements. Besides, I would pay something for the sake of having things look decent and in order. A great many times, nice-looking implements encourage us to renewed energy; and sometimes just a little extra energy makes all the difference between success and failure, or profit and loss.

Every man who has honey to sell ought to have some sort of scales to weigh it on. The family steelyards will do to start with; but whenever you begin to take time enough in the course of a year, in using steelyards, to pay for a pair of scales, get the scales, but do not get them sooner, if you are cramped for means. When your business increases so that it will pay to have still better scales, get them. Do not waste the price of a good article in bothering with a poor, cheap one.

In regard to seeds for honey-plants: Go slow, unless, indeed, you are a farmer, and can raise Alsike, buckwheat, rape, or raspberries, so as to make it a paying investment aside from the honey. If you can do that, by all means raise honey-plants. I am led to make these remarks, because some of the new bee-friends seem to think that the first thing to be done in starting in bee-culture is to get a pound of figwort seed, and 4 or 5 pounds of the spider-plant, just because these plants yield honey in such quantities as to be visible to the naked eye. Buy a five-cent package of these seeds first; and if they please you, plant more the next year, by which time you should have seed of your own raising.

In regard to sections for comb honey: As the appearance of this product has a great deal to do with the price obtained, I think it very likely that the best is the cheapest every time.

When you find that you need a smoker (and you may need it the first day you can call yourself the owner of a small colony of bees), I should say, try a cheap one to start with. But perhaps you can decide what you want before you buy, by examining them at conventions, or testing those used by your neighbors. I say this, taking it for granted that bee-keepers are always neighborly. Is it not so?

In regard to hiving-boxes: I have sometime thought I would about as soon have a half-bushel or peck basket fixed to a pole, as to have any of those in the market. May be, after having tried them, though, you will think differently.

When your business arrives to the dignity of requiring a steam-engine, it will pay you to look into the matter very carefully. If you can, go and see the engines made near you. But as I said before, be sure you need one before you get it. If you are doing your own work, decide how cheaply you can afford to furnish power by treading a foot-power machine. Whenever an engine would save you $25 a year for power, if you can raise the money to buy it, without cramping yourself, buy one of 1 or 2 horse-power. When you need a larger one, you can, as a general thing, dispose of the smaller one, or turn it toward another one as part payment.

While some folks get along nicely without any bee-veil at all, others save time and save their nerves, by using veils. The same may be said in regard to gloves, although for myself I should certainly never use the latter among bees; and if I had the entire management of an apiary, I do not think I should ever need a veil. Cheap, home-made veils will answer a very good purpose; but there are no gloves that will do, except the regular rubber gloves made for the purpose.

Prudence and economy would dictate some sort of wax-extractor. But do not buy one until you have discovered you need one. If you commence on a small scale, as you by all means should do, I would get a cheap one first.

Now I am going to talk a little on the subject of taking care of tools, even if that subject was not assigned me.

A cheap, low-priced tool may be so well cared for that it will always give excellent results; whereas, the most expensive tool may be so badly used that it will very soon give poor results. Have for your tools regularly assigned places. Where any tool is wanted in different places, I would have duplicates. For instance, cheap brushes for brushing off bees should be in handy places in the honey-house, and in several places about the apiary, at least during the summer time. The same may be said of hammers. Do not leave any kind of tool out in the rain. Keep every kind of tool not only well oiled on the moving parts, but oil it to prevent rust. Oil the hinges to the door of your honey-house. Rub tallow on the windows so they will slide easily up and down. Keep your lawn-mower nicely oiled, and out of the rain. Have your brooms hung up in broom-holders so the ends will not get rolled up and made useless; and keep the brooms out of the rain also. If you use a wrench, keep it nicely oiled and in place. And this matter of oil is of so much importance that I would have cheap oil-cans filled with oil, on nice little bracket shelves in the barn and in the stables. A little box should also be there, filled with tallow, where it can be had in a moment. A great many times the oil-can or the tallow will enable you to use a hand-saw so as to do the work in half the time it would if you had not used it. With steam-engines, and machinery for hive-making, oil is a necessity; and those who neglect to have it handy, will sooner or later have to pay heavy bills for repairs that a few drops of oil might have saved.

Nails and screws of different sizes should also be kept where you can put your hand on them quickly. Whether you are a bee-keeper or not, you need screw-drivers and adjustable wrenches where any of the children can get them in an instant, if you tell them the tools are wanted in a hurry. And, my friends, as you value the future happiness and comfort of those children, teach them to be sure these things are put back in their places as soon as you are done using them, if you should forget it yourself. A girl five years old can easily save the time of a man and a team, may be, by knowing where to find a wrench or an oil-can; and the little girl will get it, and put it back, quicker than a big man could. That is one reason why I like little girls, and little boys too, because they can help such a "big lot," when they get into the way of helping, and when their papas make friends with them. I wonder how many of the papas to whom I am talking to-day are in the habit of making friends with the "little chicks" at home. Why, if you do not, you lose half the pleasure of success in business. When a big crop of honey comes, and the prospect is before you of being able to pay off debts that have worried you, what a rare pleasure it is to be able to tell the children about it when you tell mamma, and have them rejoice and clap their hands too!

Mrs. Harrison referred to a remark made in Mr. Root's essay, on wearing gloves when handling bees. She found that gloves were necessary, but rubber ones did not work well, they were too close, and caused inconvenient sweating. She used a species of fine cloth. She cuts the tips of the fingers off, which allows the perspiration to escape, and makes them more comfortable and durable.

Rev. W. F. Clarke said that rubber gloves did not last long, the honey and propolis soon rot the material. He had experimented largely with gloves, and preferred two kinds, the one a harvest glove, largely used in Canada, and made of sheep-skin; these were very cheap, costing from 30 to 40 cents. But he preferred a glove, or rather a gauntlet, made of two separate materials—the inside a species of Canton flannel, a fluffy material, and the outside, a species of fine linen, very glossy. Such a glove is thick enough to prevent the point of the sting reaching the flesh, and the beauty of it is that when these gloves are on you can dip your hands in water which keeps you cool, and causes the bees to fly as soon as they alight on the glove, for they are dainty and do not like to wet their feet.

Mrs. Harrison—I do not think that the lining is needed.

J. B. Hall—Wear smooth clothing, singe the hairs from the hands and wrists, and but few stings will be received.

Rev. L. L. Langstroth—Bees dislike to alight upon a cold surface; have dishes of ice water in the yard, and occasionally plunge the hands into the water when the bees are cross.

Prof. Cook—I think that a nervous, irritable person may be more likely to be stung; aside from this, I do not think that bees are any "respecters of persons." I question if sweat of horses is objectionable to bees. If a horse is severely stung, cover it with blankets wet with cold water.

Mrs. Temple, of Michigan, said that she could handle bees any way she wished, and they scarcely ever stung her. When they did, she suffered no particular inconvenience. She did not mind a bee-sting more than a mosquito-sting.

Mr. Heddon was in favor of wearing veils, but would not recommend gloves. They were very much in the way. He did not think there was the difference in people that Mr. Clarke would make out, some being bee-loved and others bee-hated. He thought that the difference was only in the actions and behavior of people when among bees.

G. M. Doolittle was satisfied that there was a real difference in different persons as to liability to being stung. He had a visit from a gentleman who said that bees never stung him, and Mr. D. acted so as to irritate the bees. They stung him (Mr. D.) very freely, but never touched the visitor.

James Heddon—I have seen nothing to indicate that bees are more likely to sting one person than another.

Rev. L. L. Langstroth said that the poison of a bee-sting was very virulent in the case of some, while others did not mind it at all. At one time of his life he was very susceptible to bee-virus, and, dreaded being stung; but, after having been laid aside from bee-keeping for some time, and cautiously resuming, he found to his great surprise and pleasure that he had become so inoculated with the poison that he scarcely felt any pain whatever.

Mr. Boardman brought up another point in the essay—"Excellence or Cheapness"—as it respects section-boxes. He said that much might be done to preserve our honey-flora, by using something else than basswood for sections. He never uses basswood; honey stains it, so does water.

J. B. Hall—I use and prefer white spruce. It is hard, and the honey does not soak into it.

James Heddon—I do not use basswood.

Rev. L. L. Langstroth—Upon the subject of the essay read, I would say that excellency *is* cheapness.

Mr. John Vandervort, of Laceyville, Pa., then read the following on

COMB FOUNDATION.

To go back to the origin of comb foundation and trace its history would be a waste of time in repeating what is familiar to all practical bee-keepers. The best and most practical use of foundation is what we need to know. By the use of wired frames for the brood-chamber, I have obtained better results from foundation 6 square feet per pound than I formerly did with 3 square feet to the pound.

There has been a great deal said and written on the different kinds of foundation, and many tests have been made that, in my opinion, proved nothing. I have made mills of every style in the market (except the Pelham); I have made foundation on them; and I have tested all the different styles of foundation in the hives, and even my bees would not give my pet theories any preference, so far as acceptance was concerned. When it was all made at one time, from the same lot of wax, and used at the same time, it would all be accepted alike; but if made of different lots of wax, and at different times, they would show a decided preference for the purest and softest wax, and the newest made.

My experience in the use of comb foundation for surplus differs from many, in the amount of wax that should be used. Many claim that 8 to 10 square feet to the pound is light enough; but I contend that it should not be heavier than 12 square feet per pound. Comb drawn from foundation is much tougher than the natural comb, and for this reason we should use as little wax as possible in the surplus honey. I find by repeated experiments that I can get as much honey from the light as from the heavy foundation, and I receive no complaints from my customers about "fish-bone."

D. A. Jones—I have had "fish-bone" in one part of a case and not in another. One trouble is, the sections are put on too soon, and the bees run over the foundation, and "fool" with it, and it becomes hard before they attempt to draw it out.

Thos. Pierce—I agree with Mr. Jones.

Geo. E. Hilton—I also agree, and would further say that when only a "starter" is used, I am more apt to find "fish-bone" in the upper part of the section, which does not occur when the section is filled full of foundation.

N. W. McLain asked, "What shall we do with old foundation?"

J. C. Van Deusen—Melt it up and make it over; or if you do not wish to do this, soak it in warm water before using it.

C. P. Dadant—I have used foundation 3 years old in the brood-nest, and could see no difference between it and new foundation. If placed outside the brood nest, or where the bees do not cluster upon it readily, it will probably not be used so soon as would new.

Dr. A. B. Mason—I agree with Mr. Dadant.

A. E. Manum—I have tried foundation of different ages, from one year to five years old, and could see no difference.

C. P. Dadant—When we first give foundation to the bees, the new may be used first a short time, but as soon as the foundation is warmed up there will be no difference.

D. A. Jones—If foundation is kept for several years it will acquire a bluish color; if it is put into warm water (say 120°), it will lose this bluish cast and become soft and pliable like new foundation.

W. E. Clark—I have kept foundation in a hive for 5 years, then hived a swarm upon it, putting in some sheets of new foundation, and both old and new were worked alike.

J. Vandervort—Thin foundation *can* be made upon a mill for making heavy foundation, but I find it better to sheet the wax thin. My objection to a press is that it cannot make thin foundation unless it is sheeted thin.

James Heddon—I think there is quite a point in regard to whether foundation is exposed to the air, or kept closely boxed, as regards its being soft and pliable when old. Everything considered, I prefer new foundation. Bee-keepers themselves are to blame for all this talk about "fish-bone." I used foundation for 3 years before my honey-customers knew it, and only one ever noticed it. Foundation was then much heavier than now.

The convention then adjourned until 7:30 p.m.

EVENING SESSION.

The meeting was called to order at 7:30 p.m., President Cutting in the chair. Dr. C. C. Miller's essay was read by the Secretary, entitled

BEE-KEEPING AS A BUSINESS.

In the *Canadian Bee Journal* for November, 1885, the question is asked, "Charging for salaries for work done, for necessary expenses, and for depreciation in the value of accessories, does bee-keeping pay?" Replies are given by 19 bee-keepers. Of these, 3 are non-committal; 8 say "yes, if the business is rightly managed;" 1 thinks it will pay if the person is adapted to the business, if compared with other rural pursuits; 4 give a more or less decided "no;" and 3 give just as decided a "yes." This leaves the question about as unsettled as ever, and it is evident from a close scrutiny of the answers, that in the minds of some of the respondents at least, that the question was looked upon in rather a loose way without considering the limitations put upon it by the querist.

As I have been asked to open the discussion of this subject before the North American Bee-Keepers' Society, it may be well to try to get at the exact matter to be discussed; and in order to do this, it may be necessary to ask, what is the object of the discussion? that is, what good is to come of it? I am not sure that I know, unless it be to answer the question for that class of persons who are trying to decide whether to adopt bee-keeping as a means of livelihood. In that view of the case the question might be someting like this: Can I make as much money in a series of years, at bee-keeping, as I can at any other business? The more I think about it, the more difficult it seems to me to give an answer that will meet all cases, and perhaps the only safe one is this: "I can't tell. You must try it and find out." But as the question is asked in good faith, some discussion may help.

It will hardly do to attempt a general answer, as too many do, by quoting the results of a successful year by a skillful man, saying "Mr. A. made $3,000 clear, such a year." If Mr. A. had business ability by which he could make $4,000 a year at some other business, then for him bee-keeping did not pay. If Mr. B. can average $500 a year keeping bees, and there is no other business at which he can make more than $400 a year, then for him bee-keeping pays well.

Perhaps one of the best ways to get the desired information, is to ask those who have had experience in the matter. We will interview Mr. C., a bee-keeper of some note. In reply to our query, Mr. C. says:

"Oh yes, bee-keeping pays well. Adam Grimm made a fortune at it."

"What has been you own experience in the matter, Mr. C.?"

"Oh, I only keep bees as a matter of recreation. I had, one year, over 40 colonies, but my time is so much taken up with professional duties that I only keep about a dozen. I have kept a cash account with them, and find they pay me well."

"Why don't you keep a larger number, or devote your entire time to it?"

"Oh, I couldn't afford that. You see I can make so much more as a lawyer. But then there are thousands of men who only earn say $400 a year, who would be greatly bettered by taking up bee-keeping as an occupation. I can easily clear annually $5 per colony. Now one of the men I have spoken of, with 100 colonies could make at that rate $500 per year, so, you see, he would have his condition bettered $100 per annum."

"But, Mr. C., have those men the ability to do as well as you?"

"Well, I don't know. It's hard to tell."

But I was only to open this discussion, and I suppose it may now be considered open. I may just add a word from my own experience. I have been in the business some 24 years, making it my sole business for the last 7 years. I have no patent hive to sell, do not sell bees or queens—simply produce honey to sell, and I am obliged to confess that I could make more money to give up bees entirely. If asked why I continue at the business, I answer: I like it. It keeps me out-doors, and is good for health. It allows me to be with my family more than any other calling at which I could make as much, and for the privilege of these enjoyments I am willing to pay the price of the additional money I would make at a more lucrative calling. Whether the price may not become too large for me to afford to pay, is an open question.

A. I. Root—I think that none of our bee-periodicals now advise everybody to keep bees. Dr. Miller should have mentioned that he was receiving a large salary when he embarked in bee-keeping. He has frequently told me how he enjoyed bee-keeping. If it brought him health, what more could he ask?

S. T. Pettit—Mr. Root's speech is a sample of showing the bright side, and leads us to think that there is nothing like bee-keeping for health.

J. B. Hall—Editors like to tell good news; if I tell how much honey I produce, the bee-papers publish it, the newspapers take it up and spread the story all over the world, and everybody thinks that "if he can make money in producing honey, I know *I* can." I know of many people who have engaged in the business and lost money at it.

Thos. G. Newman—Editors publish just what bee-keepers write them for publication, and try to fairly represent the pursuit. At least, I know that is the case with the AMERICAN BEE JOURNAL.

Martin Emigh, of Holbrook, Ont., was called upon and asked if he had made bee-keeping pay. In reply he said that he had paid for his farm out of the proceeds of his bees. Last year he put 180 colonies in cellars and took out 178 alive; sold 71 colonies; and now has 177 colonies, and they produced 6000 lbs. of comb honey and 5000 lbs. of extracted honey.

H. R. Boardman asked all those who made an exclusive business of bee-keeping to raise their hands. A very animated discussion arose as to who *did* make bee-keeping an exclusive business, and some exceedingly fine points were raised, when further discussion was stopped by a motion to lay the subject on the table, which was carried.

Mr. Nelson W. McLain, manager of the Experimental Station of the U. S. Agricultural Department, at Aurora, Ills., read from the advance sheets of his forthcoming report to Prof. C. V. Riley, U. S. Entomologist; but he requested that what he read should not be reported, because it had not yet been published by the Department, and it was only by the courtesy of the Agricultural Department that he had been permitted to present it to this Continental Society of Bee-Keepers. He assured them that each one of the bee-periodicals would be furnished with proof-sheets in time so that they could publish the matter simultaneously with Prof. Riley's forthcoming report. The subjects treated upon were, "Bees and Fruit" and "Artificial Fecundation of Queens." The report detailed the results of investigations and experiments carried on by him at the Government's Experimental Station. It demonstrated that the bees cannot injure fruit; and gave the account of several experiments in fecundating queens artificially.

At the close of Mr. McLain's remarks, the Rev. L. L. Langstroth offered the following resolution which was unanimously carried:

Resolved, That this Society highly appreciates the movement now at length made by the United States Department of Agriculture, in the promotion of bee-culture, and welcomes its representative, Mr. Nelson W. McLain, to whose explanatory address and the extracts from his forthcoming report the Society has listened with much interest, especially concurring in the suggestion that statistics of the honey crop be included in the report of the Department.

A. J. Cook—People have several times told me that their grapes had been destroyed by bees, and I have offered to come and see the destruction, if they would let me know when it was going on, but I cautioned them to first be *sure* that they had a case. I have never yet been called. Bees do sometimes attack grapes, however, but it is when the weather has first caused them to crack, or something else attacked and opened the skins. I cannot believe that queens can be fecundated while in the larval state.

N. W. McLain—When I gave to Prof. Riley an account of my experiments in fertilizing queens in the larval state, he said that it was nothing strange; it had been frequently done with other insects. By exercising the laws of breeding, different varieties of bees can be crossed, the undesirable qualities eliminated, the good qualities preserved and so intensified that we really have a new strain of bees that will transmit their characteristics.

James Heddon — Have you the temerity to tell me that I can cross the Italian and German bees, and secure a cross possessing the good qualities of both varieties?

N. W. McLain.—Most assuredly.

Mr. Heddon then gave a history of how his strain of bees were originated. In regard to bees being trespassers, he said that people do not look at the matter in its true light. In some localities cows are allowed to run at large; what would be said of the land owner who would put poison into a pumpkin, saying, "It is my poison, my pumpkins, and my land, I can do with them as I please, let people take care of their cows if they don't want them poisoned?" There is as much sense in saying that bees must be kept at home. All bee-keepers should join the Union, and thus help to have bee-keeping recognized as a legitimate industry.

N. W. McLain detailed in graphic language the treatment to which honey was subjected at the hands of commision men. The remedy is to let people know that you have pure honey for sale. If bee-keepers would take one-fourth the pains that patent medicine men do to advertise, there would now be no complaint of a poor honey market.

The convention adjourned until 9 a.m. of the next day.

THIRD DAY—THURSDAY.

MORNING SESSION.

The meeting was called to order at 9 a.m., Pres. Cutting in the chair.

It was moved and carried that the Secretary be paid $50 to pay for his expenses and services.

The President called on Mr. T. G. Newman for a report on "Apicultural Necrology."

[This is omitted for want of room; it will appear next week.—Ed.]

Prof. Cook remarked that he was very much interested in the subject, and remembered with pleasure many meetings when those mentioned by Mr. Newman had been present. He spoke particularly of Mr. Moon, the original projector of the National Society, and Mr. Williamson, who so nobly managed the entertainment of the Society at Lexington, Ky. He moved a vote of thanks to Mr. Newman for placing their names and history before the Society, and also that it be spread upon the minutes. Carried unanimously.

Mr. James Heddon then read the following on

REVERSING COMBS.

My experience with reversing brood and surplus combs is nearly all confined to two seasons; but as I have had in use 4,000 to 6,000 reversible brood-frames, as well as quite a number of reversible comb-honey-cases, that experience has been somewhat comprehensive. I try to be practical in all my work, never jumping hastily at conclusions, nor adopting methods and fixtures which, although of some little advantage, still are not enough to over-balance the extra cost of construction and manipulation. Despite such endeavors I realize that it is by no means impossible for me to make mistakes, yet I feel quite positive that implements arranged for reversing brood and surplus combs at will, have come to me to stay.

During the past year I have been using a hive which I devised for the purpose, with which I can reverse, or more properly, invert a whole case of brood or surplus combs at will. While we all, here, consider this a great improvement over reversing combs singly, yet were I to continue the use of such hives as necessitated reversing each brood-comb separately, I feel positive that I never should again use a frame that would not admit of reversing.

Some of our bee-keepers have paused to ask if there was not some serious objection to inverting combs. They had noticed that the cells were slightly inclined; that the workers nearly always built them in this way; and they believed that behind this almost universal method of comb-construction, was a design for a purpose. Even if this be true (which I doubt), is it not quite evident that the designers are not aiming at our desired end; that they do not purpose "lots of surplus honey to sell."

Let us not forget that our bees always and invariably construct their combs so that the cells are in rows horizontally—not vertically. This is an unvarying rule, while the incline of the cell is not. Now, I found that by the use of comb foundation, I could make them construct their combs with the cells running in rows vertically. Much of Dadant's excellent brood foundation is stamped in this way. Many believe that it is less inclined to sag, when so placed in frames. I have found by practical use of thousands of pounds of it, that the little worker, in so rigidly following her instinct in rowing the cells horizontally, was only "just trying to fool somebody." By the inversion of thousands of combs, I have proven that her less determination to incline her cells, belongs in the same catalogue with placing the same in horizontal rows. I think that the scientist has long since learned that Nature, when forming instinct in animals, is no more working for our interests than when she pours her rain-water back into the sea, while our crops are blasting and withering; or when she visits us with cyclones.

I know it is true that we cannot with impunity violate some of the instincts of our bees; that some of them run directly parallel with the ends we desire; but which are for and which against us, we must determine by experiment. I have satisfied myself that in the inversion of combs we violate no instinct which is favorable to our success. We do, however, encourage certain actions on the part of our bees, that greatly favor the desired result.

By virtue of this reversing we get our frames completely and solidly filled with comb, which metes out to us no less than six points of advantage which I will not consume space to detail. It also tends to keep the brood-combs the more completely filled with brood, the honey going into the surplus combs. When reversing is practiced, as we can well afford to do when we can reverse a whole set of combs with a single motion, it gives us great control over swarming. I find that the reversing of the surplus combs after I have learned the proper time to do it, is conducive of most favorable results. It causes the bees to more completely fill the sections, which is not only an economy, besides presenting a more attractive package, but adds greatly to the shipping-qualities of our surplus comb honey. It also stimulates hasty and complete capping of the combs.

During my experience in reversing combs, I have never yet discovered any ill-effects resulting therefrom; but besides the advantages above enumerated, I am always meeting with unexpected minor benefits resulting from the practice.

Dr. A. B. Mason—When is the proper time to reverse the combs?

James Heddon—The proper time to reverse brood-combs is when the bees are rearing large quantities of brood, and desire to increase the size of the brood nest. To reverse the brood-combs late in the season, when they are contracting the brood-nest, will cause the brood-nest to be filled with honey all the faster. Sections should be reversed when the bees are inclined to store honey in them; if done after the bees cease storing honey in them, it will hasten the removal of the honey to the brood-nest. As soon as the outside sections are far enough advanced to bear inversion, change them to the centre of the case, then invert the whole case, and all the sections will be finished at nearly the same time. Inversion causes the bees to attach the combs to the sections all around, and thus makes them bear shipment much better. Swarming is also lessened by reversing the combs, as the removal of the honey gives more room for brood, and thus helps to destroy the desire for swarming. It also has a tendency to the destruction of queen-cells.

C. P. Dadant — How about contraction ?

James Heddon — My objection to the Langstroth hive is its depth ; with that I contracted by removing some of the combs and putting in " dummies." With my new hive I contract by simply taking away one section of brood-frames.

Mr. Thompson, of New York—How shall those manage your new hive that do not wish to feed sugar for winter stores ?

James Heddon—During basswood the bees can gather honey faster than they can store it in the sections, and we have only to place a section of brood-combs over the sections, and in this catch the " overflow." When the harvest is over, remove this and keep it until fall, then shake the bees down in front of this case of honey, or else set it over the case containing the bees, and it is done.

Geo. E. Hilton—In practicing the contraction method, how can we remove a section of the brood-nest after swarming without removing some of the brood ?

W. Z. Hutchinson—After a swarm has issued, the young queen does not commence laying until about the 19th day, two or three days later all the brood will have hatched, and we can remove one section without taking any brood ; we may get a few eggs, but this is immaterial.

L. C. Root—Are we to understand that you prefer brood-combs only 5 inches deep ?

Mr. Hutchinson—Most emphatically.

C. P. Dadant—We object to a shallow comb, and to two sets of combs, because the queen cannot lay in a circle ; it consumes time for her to pass from comb to comb, or from one end of a shallow frame to the other.

W. Z. Hutchinson—We do not care how the queen travels, whether in a circle or crosslots, if she only keeps the combs full of brood, and if we do not give her too many combs to fill, she will do this.

Prof. A. J. Cook then read an essay on the Pollen Theory. It was a scientific dissertation on the nature of different food elements, and the process of digestion. The upshot of it was that bees during their long winter imprisonment should not have nitrogenous food, as it rendered them uneasy, and necessitated exertion. The Professor's paper was an argument in favor of what is known as the pollen theory, from a chemical stand-point.

C. P. Dadant—We once imported bees largely, and by long experience learned that the food must contain no pollen ; if it did, the bees died.

James Heddon—I have found bees frozen upon combs of honey—frozen before they had consumed enough pollen or bee-bread to produce diarrhea. I have used the term " heat-producing food " in the sense in which it is generally used. I know that a stage driver in cold weather needs food of a different character than does a wood-chopper.

Prof. Cook—The chemist speaks of heat-producing food ; the physiologist does not. I think it an improper term.

Mr. Ira Barber's essay was read by the Secretary, on

WINTERING BEES IN CELLARS.

Another year has passed since we met together in council, and thousands of colonies of bees have been lost for want of proper protection in winter. It is quite often said that no one has learned the secret of wintering bees, so that they can be wintered safely every time ; but I deny the assertion, and ask this association of bee-keepers if a quarter of a century of successful wintering of hundreds of colonies of bees without loss, except where an occasional one starves, is not long enough to establish the fact that bees can be wintered as safely as any other stock ?

In my early experience I had all the troubles in wintering that many are experiencing now, and I tried every place and manner of wintering that looked reasonable, to add to their comfort, and, as a rule, when they came out of winter quarters the loss would be from 30 to 75 per cent. For a long term of years I have wintered bees without loss, and fully 80 per cent. came out as good as when they were placed in winter quarters. If you ask where I winter my bees, my answer would be, in a warm, damp cellar. Why I prefer a warm cellar is because a warm atmosphere is a natural element of the honey-bee ; and why I prefer a damp atmosphere is because bees are more quiet and healthier than in a warm, dry atmosphere for so long a time as 170 days without water.

In a warm cellar, where the temperature is from 60° to 90°, there is no discharge from the bees while in the cellar, unless it be in a dry state ; and if bees have to be fed for winter, it can be done the last thing before placing them in, and then the bee-keeper knows just what the bees have, and no harm will be done because their feed is not sealed. The hives should be packed in a solid body when kept in a high temperature, and piled one on top of the other, three or four deep, with no upward ventilation. In this way of packing if some of the bees get uneasy and leave their hive, they are quite sure to enter some other hive, and no harm is done.

In wintering in a warm cellar, bees require all the combs that they occupy in the summer, and they will be all over the combs and do not cluster. The cellar must be closed, with no currents of air either hot or cold passing through it to arouse the bees. It is necessary to have a small ventilator from the top of the room for constant draft ; a 3-inch pipe is sufficient for 200 colonies. A fire should be kept in the room above the bees whenever the mercury goes below zero.

Much is said about moisture in hives, and all manner of ways are tried to get rid of it. A warm atmosphere disposes of all moisture that arises from the bees, without any absorbents. Every colony should have plenty of feed to carry them through our longest winters, before they are placed in, so that their owner will have no excuse to go near them until spring. They will use more feed in a warm room than in a cool one.

The time to place bees in the cellar is before cold weather arrives—about the middle of November, as a rule. I use caps taken from the hives for stands to set the brood-chambers on, so that each tier of three or four hives rests on the one cap. The caps should be placed close together, and when all are in they form a floor to the cellar, and yet each stand is separate so that there is no jarring when handling in taking them out. The bottom tier of hives should be raised off the bottom-boards about half an inch at one end of the hive, while all the rest should be left just as they come from the yard, with a good cloth and sound top-board well glued on every hive. When all are in, close the cellar and let them entirely alone until there is something for them to do in the spring. About the time that willow begins to bloom is early enough in my locality.

The above plan of wintering bees is no theory, but is one that is practiced by scores of bee-keepers in Northern New York, and invariably without loss in winter.

I have been as brief as possible in giving my mode of wintering, and will only add further that this plan is given for wintering large lots of bees. Where but few bees are kept where I live, they have no trouble in wintering them in any cellar where vegetables will keep without freezing.

What I claim for this plan of wintering is this : 1. It is the safest plan. 2. It is the cheapest. 3. It requires far less labor than any plan yet recommended.

Mr. C. R. Isham asked if Mr. Barber wintered his bees upon natural stores.

Ira Barber—Yes.

C. R. Isham—Do you leave the pollen in ?

Ira Barber—Yes.

J. B. Hall endorsed the views and practices of Mr. Barber from his own experience. He accidentally discovered that bees will winter well in a high temperature. He had 48 colonies in a small bed-room off the kitchen. While he was absent a warm spell came in winter. He feared the loss of his bees. When he came home they were roaring loudly. He gave them up for lost, in his own mind. But they wintered safely, and came out strong in the spring with plenty of brood in the hives.

Martin Emigh—I endorse Mr. Barber's essay, except the dampness.

C. P. Dadant—We have wintered bees in two cellars—one wet, the other dry, and the bees wintered better in the dry one.

Ira Barber—In a damp cellar the temperature must be higher than in a dry cellar. I have wintered bees successfully in a temperature of from 60° to 90°.

Dr. A. B. Mason—I agree with Mr. Barber, except that I would take away the pollen. I do not say that the bees *cannot* be wintered well with pollen in the hives, but if they have no pollen they can have no diarrhea.

C. F. Muth asked if he understood Mr. Hall correctly yesterday, that his honey harvest closed about July 20, and that last year he did not put his bees out until May 2. If so, how did he obtain a sufficient force of bees to get in the honey during so short a harvest?

Mr. Hall replied that the secret lay in the bees being kept so warm that they bred early. He expected his hives to have several combs with brood in them by the time he put them out in the spring. By May 20, there would be not only brood in 6 or 7 combs, but that number full of brood. He could not winter without pollen, because if he did, he would not have his bees bred early enough in the spring to gather in the honey. If they started without brood they would not build up to strong colonies until near winter. He did not agree with Mr. Heddon upon the pollen theory, but must thank him for his surplus case.

James Heddon—I expect to be as successful as Mr. Barber. I think that nothing has been said that disproves the pollen theory. Pollen does not injure bees unless they consume it. Prof. Cook has explained that bees may breed without taking pollen into their intestines. In some instances honey may be free from pollen; in others it is not, and the bees cannot avoid its consumption. I kept bees in a cellar in which the temperature often fell to 20°. Those having natural stores suffered from diarrhea, some perished with it; those having sugar stores were free from it. I will furnish the facts that in many instances one colony has survived and another perished under exactly the same conditions except food. Who will furnish the explanation?

Ira Barber—The higher the temperature, the better my bees have wintered. There is sometimes water in the cellar, and the combs are slightly mouldy.

Mr. Heddon did not consider that the experience of Mr. Barber and Mr. Hall conflicted with the pollen theory, because bees did not necessarily eat pollen when they fed it to larvæ. Pollen would not hurt bees in winter, unless they ate it, and if the temperature was right they would not consume pollen.

Adjourned till 2 p.m.

AFTERNOON SESSION.

Ex-President Root called the meeting to order at 2 p.m.

Prof. Cook offered a resolution of respect to the memory of the late Moses Quinby, of St. Johnsville, N. Y., and announced the contribution of a handsome purse with which to purchase a portrait of the deceased to be presented to his widow. Mr. Quinby was one of the originators of this Society and its second president. This compliment to his memory was exceedingly appropriate and its announcement was enthusiastically received by the convention.

A. I. Root—I must go away in a few minutes, and before I go I desire to say that I have enjoyed this meeting very much. We may not have become rich by producing honey, but this meeting has certainly done much good in uniting the bee-keepers of this country into one band. This convention has "taken the conceit out of me" and has given me a better opinion of my fellow men.

The discussion on wintering bees was resumed by Mr. S. F. Newman, who said—If such gentlemen as Mr. Barber and Mr. Hall meet with no winter losses, I should like to know what becomes of their bees.

Ira Barber—I work against increase and when I get more than I can use, I sell them.

T. Pierce—I have wintered bees for 3 or 4 years, the same as Mr. Barber does, and have been successful. I keep the temperature at from 44° to 50°.

L. C. Root—Do we understand Mr. Barber to say that he has no objection to feeding bees just before putting them into the cellar?

Ira Barber—I do not approve of it, but if I find any that need feeding when putting them in, I feed them. I think that fall honey is just as good for winter stores, provided the temperature is kept high enough. Old bees are just as good as any for wintering.

Jas. Heddon—"Spring dwindling" I call bee-diarrhea in disguise. The bees have had their vitality taxed to the utmost in retaining their feces, and when they begin brood-rearing the strain is too great, and they perish faster than young bees can be reared to replace the dying. When my bees winter well they are not troubled with "spring dwindling." I am not yet certain how much there may be in this pollen theory, and I am yet experimenting.

Rev. W. F. Clarke said there were three matters of great importance to him which had transpired to-day. First, Mr. Hall had explained his method of bee-keeping, and he was much obliged to him for it. Second, Mr. Barber and Mr. Hall had supplied confirmation of the hibernation theory. A year ago he did not understand Mr. Barber's method. Mr. B. said at the Rochester convention that he (Mr. C's) method was a cold system of wintering, and his (Mr. B's) a warm one. This was a mistake. Our systems are alike, only Mr. Barber secured the right temperature in the whole cellar, and I secured it in the single hive. But Mr. Barber's bees quiesce in the fall; if the hive is too full of bees, a cluster will hang outside; they remain in torpor until the breeding instinct awakes, and then they arouse to activity. Third, the pollen theory has got its quietus from Prof. Cook. He has told us in scientific terms the nature of bee-food, and the process of assimilation. He has maintained that bees cannot breed without pollen, and that they cannot stand work without taking nitrogenous food. If they take that food it must be digested and the feces excreted. Well, Mr. Barber and Mr. Hall have proved that bees breed largely, *i. e.*, work hard, and therefore must eat and digest strong food. The inferences are plain. The bees, if they excrete, do it in dry feces. They must excrete, that is clear. Therefore, there is no danger in having pollen in the hive. On the contrary, it is necessary.

Thomas G. Newman, chairman of the committee on statistics, reported as follows: There were 103 members present, but quite a number had given no report of the past season's operations. Those reported summed up as follows:

Bees.—Colonies last May....		4,283
Increase..............		3,196
Total now............		7,479
Honey.—In comb......	lbs,	155,354
Extracted....	"	86,928
Total honey produced.	lbs,	242,282
Beeswax produced.......	lbs,	2,233
Honey Unsold.—Comb..	lbs,	43,275
Extracted....	"	33,425
Total honey unsold,	lbs,	76,700

Only about one-third present at the meeting had become members of the Society, and only about one-quarter of those present were included in the statistical report.

The smallest report was: 1 colony last spring, increased to 5, giving 43 pounds of extracted honey.

The largest report was: 470 colonies in May, 740 in the fall. Honey obtained from them 38,000 pounds in comb, and 6,000 pounds of extracted; 125 pounds of beeswax—all having been sold except 2,000 pounds of extracted honey.

All other reports of bees and honey varied between these. It was requested that no statistical table be published — the aggregate amounts being all that will serve the interests of bee-keepers in general.

The report was received and adopted, and the committee discharged.

Mr. D. A. Jones read the following on

DIFFERENT RACES OF BEES.

It is not my purpose to occupy the valuable time of this Convention with a long essay on what has been done in the past in reference to this subject, nor shall I trouble you with a history of the efforts put forth, the trials and hardships endured, and the successes, failures and disappointments connected with the importation of the different races of bees in which I have participated. The object of the majority of the bee-keepers of to-day is to have their capital and labor yield them as good a return as possible, and the desire is to obtain such a race or strain of bees as will be conducive to that end.

With the above object in view, I shall therefore tell what I have now and what I prefer. I have as yet found none having all the good qualities and being possessed of none of the bad; and none therefore that suit me in every particular. I am not now breeding either Cyprians or Syrians in their purity for my own use, but for experimental purposes and to supply the demand for pure stock. It must not, however, be supposed because of this that they are not without many good qualities; such is not the case.

Different climates have different requirements, as evidenced by the success of Mr. B. F. Carroll, of Texas, with pure Cyprians, and of Mr. A. W. Osburn, in Cuba, with Holy-Land bees or Syrians. I simply assert that they are not so suitable for our climate as are others. After the experience of years I find that for this particular climate, several crosses give far better results than do the races in their purity. This experience is the outcome of experiments conducted on an extensive scale, and with all possible care as to selection and breeding—the latter on isolated islands in the Georgian Bay. Crosses between Italians and Cyprians or Syrians, and between Carniolans and Cyprians or Syrians, seem to give the best results. One-third Cyprian or Syrian is sufficient with two-thirds Italian, or half Carniolan and half Cyprian or Syrian, work well together.

While bees are all crossed the same, the results vary for a time till the strains become more fixed. It is not well to decide because the first cross is of extraordinary value, that you have found just what you are seeking for; in after experience you will find that they seldom duplicate themselves in this respect. These first crosses are too often adopted as the standard, with the impression that breeding from them will always give equally good results. Who knows, unless with proper facilities for breeding, what these crosses are? On the islands of which I have spoken, I have found that at all times I cannot be successful, especially in those particular points that I most desire. Unless the mating of the queen can be better controlled than now, perfection cannot be reached, and the best races or strains of bees produced.

The breeds of horses and other animals over which we have perfect control, are being constantly improved, through persistent efforts which have been going on for hundreds of years; it is not a mere assumption, then, to assert that by crossing, re-crossing, selecting and re-selecting, we certainly make much progress; but these operations will need to be much more carefully conducted than is generally the case, as few, from their surroundings, are enabled to properly prosecute the work. Where pure races best meet the requirements of the climate, it is well to have them in all their purity. Mr. Benton is still engaged in the East in the exportation of queens of the different races, and his efforts are worthy of proper recognition, and should receive such.

In reply to inquiries, Mr. Jones said—I do not believe that any one living in a Northern climate can profitably produce honey with pure Syrian or Cyprian bees. I prefer Syrians crossed with Italians. The Carniolans do not swarm with us any more than do the Syrians or Cyprians. My advice is, if you have good bees keep them; don't fool away money by sending for new kinds of bees, and paying big prices. We cannot keep queens long enough to test them, and then sell them at a low price. Buy them and test them yourself. In buying queens, buy of a reliable breeder. Carniolans crossed with Italians cannot be distinguished from Italians crossed with blacks. I prefer crosses to pure races.

James Heddon—I must say a word in favor of the blacks; I want their excellent comb-building qualities, and their disposition to keep the honey out of the brood-nest. I have crossed them with the Italians for perhaps 20 generations.

The committee to whom was referred the address of Mr. T. G. Newman on the National Bee-keepers' Union, reported in favor of uniting the two societies. Mr. Heddon, president of the Union, remarked that he did not quite see how it could be done, and the resolution was tabled.

The committee on resolutions reported the following, which were unanimously adopted:

Resolved, That the thanks of this Society be, and are hereby presented to the retiring President, Secretary, and Committee of Arrangements, for their energetic and efficient services in connection with this meeting.

To the railroads by which reduced fares were given to members attending this meeting.

To the proprietors of the Antisdel House for reduced rates, excellent fare, and polite attentions.

To the editors of the various bee-periodicals, also the publishers of the *Prairie Farmer*, for the publication of early and full notices of this meeting.

Resolved, That this Society has felt it an especial privilege and pleasure to have had the presence of the patriarch of American apiculture, in the person of Rev. L. L. Langstroth. It has gratefully appreciated the active part that he has been enabled to take in the discussions at this meeting, and rejoices that still, in his old age, he is enabled to do something for his favorite pursuit. The warm affection and best wishes of all present will hover about him so long as he shall be spared in this life, and his memory will be held dear while honey distils and bees fly.

Resolved, That we appreciate the presence of ladies in larger numbers than ever before, particularizing Mrs. L. Harrison, of the *Prairie Farmer*, and Miss Johnson, of the *Michigan Farmer*.

The committee also recommended the adoption of the following:

Resolved, That a committee of one be appointed to present to the Commissioner of Agriculture our appreciation of his valuable efforts to aid our business in urging the importance of apiarian statistics, and suggest our desires in respect to the chemical examinations which we deem very important to our pursuit.

Resolved, That the thanks of the North American Bee-Keepers' Society are due to Prof. C. V. Riley and to the United States government for its action in forming an experimental station for the promotion of apiculture.

Resolved, That we tender the thanks of this Society to the Department of Agriculture in sending to our meeting in Detroit, Prof. McLain, and for the able paper he has presented to us.

Resolved, That we recognize this step of the Department of Agriculture as in the right direction, and bespeak for it your continued support.

Resolved, That we recommend to the Department the making of accurate reports of all data concerning the production of honey, and have them embodied in the usual agricultural reports.

Resolved, That the Secretary of this Society present a copy of these resolutions to Prof. McLain for transmission to the Department of Agriculture.

The above were also adopted.

Prof. Cook, who was about to leave, expressed the great pleasure he had experienced in meeting so many bee-keepers, especially the Eastern friends. Mr. L. C. Root responded, saying that he had hoped great things for this meeting, and he now felt certain that the Society had done wisely in coming to Detroit.

It was voted to hold an evening session, and the meeting adjourned until 7:30 p.m.

EVENING SESSION.

The meeting was called to order at 7:30 p.m., Ex-President Root in the chair.

Mr. Dadant introduced the subject of beeswax, and urged the desirableness of inducing the United States Government to take off the protective duty in order that a supply might be obtained from other countries.

D. A. Jones remarked that this had been readily done by the Government of Canada on application, and it was highly probable that the American Government would do the same if asked. One or two members doubted if it was worth the trouble, for all the beeswax that could be got from foreign countries. Much of the beeswax obtained from abroad was very inferior.

C. F. Muth remarked that much of the beeswax offered in this country was very inferior, and went on to speak of several adulterations, some of which were such close imitations of the genuine article as to deceive experienced dealers. The greatest care should be taken to get pure beeswax.

Prof. Cook was appointed "the committee of one" voted in the afternoon to communicate with the Department of Agriculture in regard to obtaining a scientifically-accurate analysis of honey.

D. A. Jones gave his method of queen-rearing as follows: Get a colony very strong, either by adding brood or young bees, then remove the queen and brood, and give the bees eggs from a choice queen. A large number of excellent queens will be the result. Such a colony can build at least 3 lots of cells. Italians are poor cell-builders. Queens reared in this manner lay sooner, and are better developed.

James Heddon — These excellent results may be the result of "contraction," *i. e.*, the bees should be many in proportion to the space.

N. W. McLain—It is amazing to me why breeders pay so much attention to the rearing of queens and so little to the rearing of drones. If such wonderful results have been secured in rearing queens, the same treatment in rearing drones will improve them in the same manner, and it should not be forgotten that prepotency is on the male side. Both the "Pollen Theorists" and Mr. Barber are correct. If the environments are right, the pollen does no harm; if the pollen is not there, no harm will come if the environments are not right.

D. A. Jones—There is a way of "squeezing" bees into the sections by putting the brood-combs close together, and more surplus will thus be secured. I am so thoroughly convinced of the advantage of this that I make all my hives so that the combs are 1⅜ inches from centre to centre.

T. L. VonDorn—I have used combs only 1¼ inches ftom center to center, and was surprised at the good results.

D. A. Jones—When the honey harvest is coming to a close, I remove ⅓ of the combs, and the bees build out the upper part of the combs and fill them with honey; the wide spaces below the honey are excellent places for the bees to cluster.

James Heddon—By using combs far apart, the inducement to building drone-comb is increased.

D. A. Jones—In introducing virgin queens I let them run in at the entrance. Do not disturb the bees. I can introduce laying queens by putting them into a top-feeder and letting them work their way down through the feeder into the hive. In using chloroform for introducing queens it is better to use it at evening or in the morning, when the bees are not flying, as those that came in might kill the queen. If done in the middle of the day, give them another puff or two a few minutes after the queen has run in.

L. C. Root—One of the greatest stumbling-blocks in the way of advancement is the oft-repeated cry, "It is not according to nature!" It is not a question of "naturalness," but it is, "All things considered, is it best?"

Mr. Manum stated that he had been very successful in getting colonies with laying workers to accept a queen, by introducing her with a couple of frames of brood in all stages. This restored the colony to a normal condition.

D. A. Jones said this plan would work with all but pure Cyprians or Syrians, which were incorrigible.

Ex-President Root then addressed the meeting, summing up some of the interesting features of the present gathering, expressing his satisfaction at the success which had attended the convention, and said that the hour had now come when we must part.

Adjourned *sine die*.

W. Z. HUTCHINSON, *Sec.*

SELECTIONS FROM OUR LETTER BOX

Nebraska State Bee-Keepers' Association.—W. F. Wright, of Johnson, Nebr., Secretary of the Association, desires to make the following announcement:

The eighth annual meeting of the Nebraska State Bee-Keepers' Association will be held at Lincoln, Nebr., on Jan. 13, 14 and 15, 1886, the first session beginning at 3:30 p.m., on the 13th. Notices will be posted at the Lincoln Depots, directing bee-keepers to the Hall in which the meeting will be held. All are cordially invited to attend. By new arrangements made with the B. & M. and U. P. R. R. Companies, all who wish to attend the Convention must CALL FOR and OBTAIN certificates at their respective depots, and pay full fare to Lincoln. Then, at any time during the sessions present such certificates to me, and I will certify to the same, which will entitle all who hold such certificates, to a return ticket at one-third fare. Do not fail to call for certificates to the Convention when purchasing tickets to Lincoln.

Wintering Bees.—Elias Fox, Hillsborough, Wis., on Dec. 6, 1885, writes:

My method of wintering bees is as follows: I make benches of 2x4 studding, with four legs under each about 10 inches long, and place the hives (which have tight bottoms) on the benches in the cellar, removing the covers, and covering the hives with coffee-sacking. Then I place on either end of the hive, sticks the length of the width of the hive, 1¼x1¼ inches square, and on these I place the next tier of hives. I also leave the entrances the same as when on the summer stands. I have wintered my bees this way for the last two winters, with good results, notwithstanding the last very severe winter; and they had natural stores with plenty of pollen. I do not claim that I have solved the wintering problem, as some do, who feed their bees wholly on sugar syrup, and advise leaving the hive-cover on, but I *do* say that so far I have been as successful as they, and *some* of them I do not believe are nearer perfection now than they were when they commenced experimenting. However, time will tell.

Honey and Beeswax Market.

Office of the AMERICAN BEE JOURNAL,
Monday, 10 a. m., Dec. 21, 1885.

The following are the latest quotations for honey and beeswax received up to this hour:

CHICAGO.

HONEY.—The market is without special change since last quotations. White comb honey in one-pound sections brings 15@16c. A little fancy sells at 17c. in a small way. Dark comb honey sell slowly. Nearly all of the white comb honey comes from the East. Extracted is held firmly at from 6@8c.

BEESWAX.—25c.

R. A. BURNETT, 161 South Water St.

NEW YORK.

HONEY.—The market for comb honey is quite active, and the demand nearly equal to the supply. Prices are gradually shading, owing to the fact of many producers selling their entire crop in this city at very low prices, thereby enabling the purchasers to sell low and realize a handsome profit. Large lots have been sold here at 9@10c. for fancy goods. In consequence of no honey coming in from the West, we can see no reason why good prices should not be obtained, except as above stated. Present quotations are: Fancy white 1-lb. sections, 14@15c.; the same in 2-lb. sections, 11½@12½c.; fancy buckwheat honey in 1-lb. sections 11@12c.; in 2-lbs., 9@10c. Off grades 1 to 2c. less.

BEESWAX—Prime yellow, 25@28c.

MCCAUL & HILDRETH BROS., 34 Hudson St.

ST. LOUIS.

HONEY.—The market is quiet and the demand light just now. We quote prices as follows:—Choice comb honey, 10@12c. Extracted, in barrels, 4½@5c. Extra fancy of bright color and in 1-lb. packages, ¼ advance on above prices.

D. G. TUTT & CO., Commercial St.

CINCINNATI.

HONEY.—There is a very slow demand from manufacturers, for extracted honey, with a large supply on the market, while the demand is very good for clover honey in square glass jars. Prices for all qualities are low and range from 4@8c. a lb. Supply and demand is fair for choice comb honey in small sections, which brings 12@15c. per lb.

BEESWAX.—Good yellow is in good demand, and arrivals are fair, at 20@22c. per lb.

C. F. MUTH, Freeman & Central Ave.

CLEVELAND.

HONEY.—The market since our last report has improved very much and there is a good opening for very choice white 1-lb. sections, for which 14@15c. is obtained Our stock of new is very light at present but of the old we have a good supply which we sell at 10@13c. for white 1-lb. sections. Extracted honey is slow at 6@7c. for best white clover and basswood.

BEESWAX.—Very scarce at 20@22c.

A. C. KENDEL, 115 Ontario Street.

KANSAS CITY.

HONEY.—The demand for honey begins to sag under the present comparatively high prices, and recent warm weather, though choice 1-lb. sections are still scarce and pretty well taken up at 16@17c. We think, however, that the top is reached and any change will be lower prices. Two-lb. sections are selling at 12½@15c. Extracted, dark, 4@6 cts.; white, 7@8c.

BEESWAX,—22½@25c.

CLEMONS, CLOON & Co., cor. 4th & Walnut.

BOSTON.

HONEY.—It is selling very well but prices are very low, and we are often obliged to shade our prices in order to make rates. We quote comb honey in 1-lb. sections at 14@16c., and 2-lb. sections at 12@14c. Extructed, 6@8c.

BEESWAX.—30 cts. per lb.

BLAKE & RIPLEY, 57 Chatham Street.

SAN FRANCISCO.

HONEY.—Choice comb honey is in light supply and is bringing firm figures. There is a fair movement in best qualities of extracted at steady rates. We quote as follows: White to extra white comb, 10@12½c.; amber, 7@8c. Extracted, white liquid, 5¼@5½c.; light amber colored, 4½@4¾c.; amber and candied, 4¼c.; dark and candied, 4@4¼c.

BEESWAX.—Quotable at 23@25c., wholesale.

O. B. SMITH & Co., 423 Front Street.

Preserve your papers for reference. If you have no **BINDER** we will mail you one for 75 cents, or you can have one FREE if you will send us 4 new yearly subscriptions for the BEE JOURNAL.

WEEKLY EDITION
OF THE
AMERICAN
ESTABLISHED IN 1861
OLDEST BEE PAPER IN AMERICA
BEE JOURNAL
PUBLISHED BY
THOMAS G. NEWMAN & SON,
PROPRIETORS,
923 & 925 WEST MADISON ST., CHICAGO, ILL.

ALFRED H. NEWMAN,
BUSINESS MANAGER.

Special Notices.

SPECIAL NOTICE.—On January 1,1886, the price of the Weekly BEE JOURNAL will be reduced to *One Dollar a Year*. This we have contemplated for some years, and only awaited the proper time to warrant us in issuing the Weekly BEE JOURNAL at the very low price of *one dollar* a year. That time has now come. We shall continue to improve the BEE JOURNAL, and it will maintain its proud position as the leading bee-paper of the World !

◆

"Don't Stop"—that is what many write to us about their papers, when their time is nearly out. One subscriber says: "This has been a year of disaster, and it is not convenient for me to send you the money now to renew my subscription. It runs out with this month ; *but don't stop sending it.* I will get the money to you within three months." Such letters are coming every day, and so for the present we have concluded not to stop any papers until requested to do so.

◆

Comb Honey Wanted.— We have an opportunity to sell several thousand pounds more of Choice White Comb Honey in 1-lb. sections—on commission. Those who have such for sale are invited to correspond with us—stating particulars, including the price desired.

◆

The Western World Guide and Hand-Book of Useful Information, contains the greatest amount of useful information ever put together in such a cheap form. The printing, paper, and binding are excellent, and the book is well worth a dollar. To any one sending us two *new* subscribers besides their own, with $3, for one year, we will present a copy of this valuable book.

◆

Beeswax Wanted.—We are now paying **23** cents per pound for good, average, yellow Beeswax, delivered here. Cash on arrival. Shipments are solicited. The name of the shipper should be put on every package to prevent mistakes.

Local Convention Directory.

1886. *Time and place of Meeting.*

Jan. 8.—Northern Ohio, at Wellington, O.
H. R. Boardman, Sec., E. Townsend, O.

Jan. 12.—Cortland Union, at Cortland, N. Y.
W. H. Beach, Sec., Cortland, N. Y.

Jan. 13—15.—Nebraska State, at Lincoln, Nebr.
W. F. Wright, Sec., Johnson, Nebr.

Jan. 19.—N. W. Ills. & S. W. Wis., at Freeport, Ills.
Jonathan Stewart, Sec., Rock City, Ills.

Jan. 19—21.—Maine, at Skowhegan, Me.
Wm. Hoyt, Sec., Ripley, Me.

Jan. 20, 21.—Indiana State, at Indianapolis, Ind.
F. L. Dougherty, Sec., Indianapolis, Ind.

Jan. 21.—Champlain Valley, at Middlebury, Vt.
R. H. Holmes, Sec., Shoreham, Vt.

Apr. 27.—Des Moines County, at Burlington, Iowa.
Jno. Nau, Sec., Middletown, Iowa.

☞ In order to have this table complete, Secretaries are requested to forward full particulars of time and place of future meetings.—ED.

◆

Convention Notices.

☞ The annual Convention of the Indiana State Bee-Keepers' Society will be held at Indianapolis, Ind., on Jan. 20 and 21, 1886. The meetings of this Society have been very successful in the past, and the coming meeting promises to be still better. The meeting will be held in the rooms of the State Board of Agriculture, and it is one of a series of meetings held by the different Societies of the State, which pertain to the specialties of Agriculture, viz., Dairying, Wool-Growing, Swine-Breeding, Poultry-Raising, etc. Reduced rates are offered at Hotels, and everything possible will be done to make the meeting entertaining and instructive. A very complete program is being prepared, with ample time to discuss the important subjects of particular interest to bee-keepers. A cordial invitation is extended to all bee-keepers, with the hope that they will attend, and thus make the Convention of still greater importance.

FRANK L. DOUGHERTY, *Sec.*

☞ The annual meeting of the Cortland Union Bee-Keepers' Association will be held in Union Hall at Cortland, N. Y., on Jan. 12, 1886, at 10 a.m. It is hoped that all interested in apiculture will make an extra effort to be in attendance at this meeting. Those unable to attend this meeting are requested to send to the Secretary, reports of their apiaries from May 1, 1885, to Dec. 1, 1885.

W. H. BEACH, *Sec.*, Cortland, N. Y.

☞ The next meeting of the Maine Bee-Keepers' Association will be held at Skowhegan, Me., on Jan. 19, 20 and 21, 1886. The Maine Central R. R. will sell tickets at one fare for the round trip. The Grand Trunk R. R. will sell tickets at the same rate to Lewiston, Me., to all who attend the meeting. Bee-keepers everywhere are cordially invited to be present. WM. HOYT, *Sec.*

☞ The Northern Ohio Bee-Keepers' Association will hold a meeting in the Baptist Hall, in Wellington, O., on Friday, Jan. 8, 1886. A special effort will be made to secure a full attendance. H. R. BOARDMAN, *Sec.*

☞ The annual meeting of the Northwestern Illinois and Southwestern Wisconsin Bee-Keepers' Association will be held in Freeport, Ills., on Tuesday, Jan. 19, 1886.

JONATHAN STEWART, *Sec.*

☞ The annual meeting of the Champlain Valley Bee-Keepers' Association will be held in Middlebury, Vt., on Jan. 21, 1886.

R. H. HOLMES, *Sec.*

◆

Are you Entitled to a pension? You may be and may not know it. If you examine the Guide and Hand-Book you will soon find out. Thousands of things worth knowing will be found in it. The BEE JOURNAL for 1886 and the Guide Book will both be sent for $1.30.

OUR CLUBBING LIST for 1886.

We supply the **American Bee Journal** for 1886, and any of the following publications, at the prices quoted in the last column of figures. The first column gives the regular price of both. All postage prepaid.

	Price of both.	*Club*
The American Bee Journal	1 00	
and Gleanings in Bee-Culture	2 00	1 75
Bee-Keepers' Magazine	2 00	1 75
Bee-Keepers' Guide	1 50	1 40
The Apiculturist	2 00	1 75
Canadian Bee Journal	2 00	1 75
Texas Bee Journal	2 00	1 75
The 7 above-named papers	6 50	5 50
and City and Country	2 00	1 50
New York Independent	4 00	3 30
American Agriculturist	2 50	2 25
American Poultry Journal	2 25	1 75
and Cook's Manual	2 25	2 00
Bees and Honey (Newman)	2 00	1 75
Binder for Am. Bee Journal	1 75	1 60
Apiary Register—100 colonies	2 25	2 00
Dzierzon's Bee-Book (cloth)	3 00	2 00
Dzierzon's Bee-Book (paper)	2 50	2 00
Quinby's New Bee-Keeping	2 50	2 25
Langstroth's Standard Work	3 00	2 75
Root's A B C of Bee-Culture	2 25	2 10
Alley's Queen-Rearing	2 50	2 25
Farmer's Account Book	4 00	3 00
Guide and Hand-Book	1 50	1 30

Advertisements.

HONEY

WE are now in the market, and will be during the entire season, for all honey offered us, in any quantity, shape, or condition—just so it is pure. We will sell on commission, charging 5 per cent.; or, if a sample is sent us, we will make the best cash offer the general market will afford. We will handle beeswax the same way, and can furnish bee-men in quantities, crude or refined, at lowest market prices. Mr. Jerome Twichell, our junior member in this department, has full charge, which insures prompt and careful attention in all its details.

Sample of comb honey must be a full case, representing a fair average of the lot. On such sample we will make prompt returns, whether we buy or not.

CLEMONS, CLOON & CO.,
36A17 KANSAS CITY, MO.

Bee-Hives, Honey-Boxes, Sections.

Largest Bee-Hive Factory in the World.

Capacity, one car-load per day. Best of goods at lowest prices. Write for price-list.

C. B. LEWIS & CO.
51Atf. **WATERTOWN, WIS.**

BEE HIVES,

One-piece Sections, Section-Cases, Frames, &c., of superior workmanship.

SMITH & GOODELL,

Manufacturers and dealers in Apiarian Supplies and Barrel Churns. Send for price-list.

Rock Falls, Whiteside Co., Ills.
51D6t.

1886. ALLEY'S 1886.

Combined Drone and Queen Trap.

A perfect non-swarming arrangement. Send and get them by the quantity, in the flat, and sell to your bee-keeping friends. Every bee-keeper will purchase one or more who examines them. Send for wholesale prices. Circulars free.

HENRY ALLEY & CO.,
51Dtf. Wenham, Essex Co., Mass.

HONEY FOR SALE!

Well-ripened, bright BASSWOOD extracted HONEY, at the following low price, **for CASH with the order :**

100 Pound Kegs (net) each............	$8 00
50 " " " "	4 00

☞ Free on board CARS, and no charge for kegs. Shipments prompt.

I also have on hand several thousand pounds of mixed honey, of about equal parts of basswood and fall flowers, which may be called AMBER HONEY, that I will sell as above, at 1 cent less per pound.

Address, **JAMES HEDDON,**
DOWAGIAC, Cass County, MICH.

AMERICAN INVENTOR,

A JOURNAL FOR
The Inventor, Mechanic and Manufacturer.

SUBSCRIPTION, $1 PER YEAR.

Each number is replete with articles on **Patent Law, Invention, Mechanics, Art, Science, Manufactures, etc.**

Agents wanted ; liberal pay ; write for terms.

Best Advertising Medium of its class.—Send for sample copy and advertising rates.

Address, **AMERICAN INVENTOR,**
188 *West Fifth St.,* *CINCINNATI,* O.

Dadant's Foundation Factory, wholesale and retail. See Advertisement in another column.

FLAT - BOTTOM
COMB FOUNDATION,

high side-walls, 4 to 16 square feet to the pound. Circular and samples free.

J. VAN DEUSEN & SONS,
Sole Manufacturers,
Sprout Brook, Mont. Co., N. Y.

PATENTS

CAVEATS, TRADE MARKS, LABELS and COPY-RIGHTS promptly secured for United States and Foreign Countries. Patents Negotiated. **INVENTOR'S MANUAL,** a 70-page book, showing How to Procure and Sell Patents, sent free. All Patents procured through this Agency described in the **AMERICAN INVENTOR** AMERICAN PATENT AGENCY,
188 & 190 W. Fifth St., Cincinnati, Ohio.

WIN more money than at anything else by taking an agency for the best selling book out. Beginners succeed grandly. None fail. Terms free. HALLETT BOOK CO.
51A1y Portland, Maine.

Dadant's Foundation Factory, wholesale and retail. See Advertisement in another column.

ELECTROTYPES

Of Engravings used in the Bee Journal for sale at 25 cents per square inch—no single cut sold for less than 50c.

THOS. G. NEWMAN & SON,
923 & 925 West Madison St., CHICAGO, ILL.

Dadant's Foundation Factory, wholesale and retail. See Advertisement in another column.

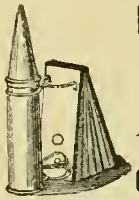
EVERY MAN who desires to become **HIS OWN PRINTER** at a remarkably low original cost, can do so by getting our circular free. New plan; just what firms need.

L. ZERBE, 188 W. 5th St., Cincinnati, O.

THE BRITISH BEE JOURNAL
AND BEE-KEEPER'S ADVISER.

The BRITISH BEE JOURNAL is published every Week, at Ten Shillings and 10d. per annum, and contains the best practical information for the time being, showing what to do, and when and how to do it. It is edited by T. W. Cowan, Esq.

The British Bee Journal and our Weekly for $3.50.



Bee-keepers' Supplies,

Standard Langstroth,

Quinby Standing-Frame,

And all other kinds of **Hives,**
MADE TO ORDER.

Quinby Smoker a specialty.

I shall supply anything you need in the Apiary. Send for Illustrated Price List.

W. E. CLARK, successor to L. C. Root,
7A1y ORISKANY, Oneida County, N. Y.

THE INVERTIBLE HIVE!

INVERTIBLE FRAMES,

Invertible Surplus Honey Cases,
Entrance Feeders, Top and Bottom Feeders,
Hive-Lifting Device, Honey Extractors,
Wax Extractors, Comb Foundation, etc.

☞ My new Illustrated Catalogue is now ready, and will be mailed to all who may apply for it. Address,

J. M. SHUCK,
DES MOINES, IOWA.
10A1y

Muth's Honey Extractor,

Square Glass Honey Jars, Tin Buckets,
Langstroth Bee-Hives, Honey-Sections, etc.

Apply to **CHAS. F. MUTH,**
Freeman & Central Ave., - CINCINNATI, O.

☞Send 10c. for Practical Hints to Bee-Keepers.

Wooden Pails for Honey!

WE can furnish regular Wooden Water-Pails—well painted on the outside, and with 3 iron hoops and a tight-fitting wood cover, at **$2.25** per dozen. They will hold **25** lbs. of honey, and when empty, can be utilized for use as an ordinary household pail.

THOS. G. NEWMAN & SON,
923 & 925 West Madison Street, CHICAGO, ILL.

EXCELSIOR
HONEY EXTRACTORS

EXCELSIOR
HONEY
EXTRACTOR

In answer to frequent inquiries for Extractors carrying 3 and 4 Langstroth frames, we have concluded to adopt these two new sizes. The 3 frame basket is in a can of the same size and style as the 2 frame. The 4 frame basket is in the larger can, with the cone or metal standard for the basket to revolve upon, leaving room underneath the basket for 75 or 80 lbs. of honey. It will be complete, with covers, and in every way identical, except in size, with the $16.00 Extractor, 13x20, which is intended for any size of frame.

Excepting with the $8.00 Extractors, all the different styles have strainers over the canal leading to the honey gate, and movable sides in the Comb Baskets. The $8.00 and $10.00 Extractors have no covers.

For 2 American frames,	13x13	inches.........	$8 00
For 2 Langstroth "	10x18	"	8 00
For 3 " "	10x18	"	10 00
For 4 " "	10x18	"	14 00
For 2 frames of any size,	13x20	"	12 00
For 3 " "	13x20	"	12 00
For 4 " "	13x20	"	16 00

THOS. G. NEWMAN & SON,
923 & 925 West Madison Street, CHICAGO, ILL.

$200,000 *in presents given away.* Send us 5 cents postage, and by mail you will get *free* a package of goods of large value, that will start you in work that will at once bring you in money faster than anything else in America. All about the $200,000 in presents with each box. Agents wanted everywhere, of either sex, of all ages, for all the time, or spare time only, to work for us at their own homes. Fortunes for all workers absolutely assured. Don't delay. H. HALLETT & Co.
1A1y Portland, Maine.

THE HORSE,

By B. J. KENDALL, M. D.

A TREATISE giving an index of diseases, and the symptoms ; cause and treatment of each, a table giving all the principal drugs used for the horse, with the ordinary dose, effects and antidote when a poison ; a table with an engraving of the horse's teeth at different ages, with rules for telling the age of the horse ; a valuable collection of recipes, and much valuable information.

Price 25 cents—in English or German.

THOS. G. NEWMAN & SON,
923 & 925 West Madison St., CHICAGO, ILL.

60 New Style, Embossed Hidden Name and Chromo Visiting Cards, no 2 alike, name on, 10c., 13 packs $1, warranted best sold. Sample book, 4c. L. JONES & CO., Nassau, N. Y.
11A1y

DOUBLE - WALLED
Langstroth Hives
FOR WINTERING BEES ON SUMMER STANDS.

THEY are made identical and interchangeable with our Standard Langstroth Hives, as advertised and described in our Catalogue. All upper stories and surplus arrangements made by us will fit this double-walled brood chamber. Prices: Nailed, **50c.**; in the flat, **35c.** per hive, in addition to our prices of the Standard Langstroth. We also make our 7½-inch Caps with a sloping or Cottage Roof, which is worth **20c.** nailed and **15c.** flat, in addition to the prices of the Standard Langstroth hive, which has a flat top.

THOS. G. NEWMAN & SON,
923 & 925 West Madison St., CHICAGO, ILL.

HELP for working people. Send 10 cents postage, and we will mail you *free,* a royal, valuable sample box of goods that will put you in the way of making more money in a few days than you ever thought possible at any business. Capital not required. You can live at home and work in spare time only, or all the time. All of both sexes, of all ages, grandly successful. 50 cents to $5 easily earned every evening. That all who want work may test the business, we make this unparalleled offer : To all who are not well satisfied we will send $1 to pay for the trouble of writing us. Full particulars, directions, etc., sent free. Immense pay absolutely sure for all who start at once. Don't delay. Address STINSON & CO.
51A1y Portland, Maine.

WEEKLY EDITION
OF THE
AMERICAN
ESTABLISHED IN 1861
OLDEST BEE PAPER IN AMERICA
BEE JOURNAL

THOMAS G. NEWMAN,
EDITOR.

Vol. XXI. Dec. 30, 1885. No. 52.

APICULTURAL NEWS ITEMS.

EDITORIAL AND SELECTED.

Why doth the violet spring
  Unseen by human eye ?
Why do the radiant seasons bring
  Sweet thoughts that quickly fly :
Why do our fond hearts cling
  To things that die ?
O life ! this is thy song,
  " Endure and—die ?"

Happy New Year!—We earnestly wish one and all of our readers a Happy New Year, and may prosperity and happiness attend all their laudable undertakings throughout the year.

The Year is Ended. If this life is the corner-stone of the future, should we not use all our endeavors to have it *plumb* and *square ?*

During the Year 1885 we have inserted 175 queries in the Query Department, with answers by some of our best apiarists. This alone has been worth more than the subscription price of the BEE JOURNAL to almost every subscriber, because it gives the opinions of 8 or 10 successful apiarists on each topic. " In the multitude of counsel there is wisdom." The answers vary, because in many cases the matters treated upon are simply matters of *opinion*, and show enough difference to make it thoroughly interesting. Those who have so kindly aided in this Department, have the thanks of our readers generally. The Query Department will be continued next year under the same plan of management.

A Complete Index will be found in this number of the JOURNAL, both to the subject-matter, correspondents' names, and illustrations. To these we point with pride, because they comprise the whole range of apicultural discussion, as well as current news of our pursuit. The Index to Correspondents contains the names of all our best, most experienced and thoroughly successful writers of the present day. These will all be continued for the coming year, and our arrangements now perfected for the future will make the BEE JOURNAL for 1886 better than all its preceding years. In fact, no bee-keeper can afford to do without it.

This Number closes another Volume of the AMERICAN BEE JOURNAL, rears one more monument upon the broad area of industrial improvement, and creates one more " book of reference " on progressive apiculture.

The AMERICAN BEE JOURNAL was, in 1861, conceived in a laudable desire to do good to a languishing industry, it has been conducted with the sole view of promoting the welfare of its patrons, and is dedicated to the interests of honey-producers generally.

It should be remembered that it was the first periodical that claimed for bee-culture its rights as a science. It raised a torch-light, which for years gleamed alone amid the dark mists of ignorance and prejudice, and now, when it has given birth to other lights, it is still burning with a pure and brilliant flame.

For the past 12 years its present editor has labored dilligently for the interests of apiarists, and still hopes, by presistent toil, to advance the practical science of modern apiculture, and thus to carry out the plans of his honored predecessor, Mr. Samuel Wagner, who first conceived the idea of publishing a periodical devoted to bee-culture in America. Since then much progress has been made — many doubtful problems have been solved, and new ideas promulgated ; all the standard works on apiculture have been revised time and again, as published experiences have proven to the several authors that their books inclined to error, and none but the most conceited have dared to assume that they knew it all.

We desire not only that every present subscriber will promptly remit for the coming year, but also that each one will convince his bee-keeping friend or neighbor that it is to *his interest* to join in a club, at least of two, and thus spread the light of its torch, so that so many more may be benefited thereby.

It is to the interest of every bee-keeper that his neighbor bee-keepers are educated especially as to marketing honey, that they may have the honey in attractive shape, and to know its proper selling value before attempting to sell it. This may prevent their spoiling of his market by ruining the prices or disgusting purchasers.

It will be Wisdom to invest one dollar for the Weekly AMERICAN BEE JOURNAL for 1886. With its weekly visits every subscriber will be kept posted will all the apicultural news of the day. All the new things in our ever-advancing pursuit will be placed before our readers as soon as they come to the light, and at the end of the year every subscriber will have a volume of 832 pages filled with just the kind of reading that will be of the *greatest value* to every apiarist. By the use of the Binder prepared for the BEE JOURNAL, all can have the volume bound and in good preservation every day in the year, and always up to date, ready for reference and daily examination. It surely will be *wisdom* for every bee-keeper to take the AMERICAN BEE JOURNAL for 1886. Now is the time to renew with the advent of the new year.

The American Agriculturist and the Weekly BEE JOURNAL for 1886 will both be sent for $2.25, or with the " Family Cyclopædia " or " Law Book," for $2.65.

Concerning the Duty on Beeswax in Canada, on page 811 Mr. Jones was reported to have said that the Canadian Government had removed the duty, but Mr. R. F. Holtermann, of Fisherville, Ont., denies this, and says :

> The subject was brought up and the Government was approached more or less directly ; but just about that time we found, owing to heavy winter losses in 1884-85, that there would be no scarcity of wax for some time, and it dropped. My own opinion is, aside from all other difficulties, the idea of removing the duty on beeswax is impracticable, because, however easy to the experienced, it is no easy matter for a novice to distinguish beeswax from paraffine, ceresine, and such like. To remove the duty from beeswax, would set a premium upon frauds of all kinds, and we cannot hope or expect to remove it from all these, nor can we expect to have the Government excise men to distinguish wax from apparently similar substances.

We were not present at the last session (having left for Chicago to get the Convention report before our readers), and therefore know nothing of what was said. Perhaps Mr. Jones can straighten the matter out.

New Subscribers are coming in rapidly —for this our thanks are tendered to the friends of the AMERICAN BEE JOURNAL, who are exerting their influence in its behalf. We should thribble our list at the present low rate of *one dollar a year.* It is a popular price, and we find the reduction a popular thing with all bee-keepers.

Miss Lucy A. Wilkins declines the office of Vice-President of the North American Bee-keepers' Society for Michigan. Prof. Cook was nominated, and he then nominated Miss Wilkins, we presume as a compliment to the lady. As she declines, the office will of course devolve upon Prof. Cook.

G. B. Lewis & Co., of Watertown, Wis., are on hand with their new Catalogue for 1886—20 pages. A copy is on our desk.

Using Basswood for sections was discussed at the late Convention at Detroit. Mr. Boardman said : (see page 806.) " I use basswood for sections, but in view of its becoming scarce, and to save it for bee-forage, can we not find some other timber to take its place ?" He was erroneously reported to have said : " I never use basswood," etc. Hence this correction.

The First Convention of the bee-keepers of America was held at Cleveland, Ohio, on March 15, 1860 ; nearly 26 years ago. We have prepared a history of the inception, formation, and organization of the North American Bee-Keepers' Society, together with a digest of the proceedings of all its meetings from its inauguration, with a full report of its last meeting at Detroit, Mich. This we are now publishing in pamphlet form. It will be ready in January, and will be sent postpaid for 25 cents. We will *present* a copy of it to any one sending us a club of two subscribers for one year, with $2.00

Bulletin No. 9, of the Michigan Agricultural College, is received. It treats of chemicals.

Silence is a strong argument, as well as a great virtue. There is no wisdom in unnecessary contention. Let us all commence the new year with the determination to see " how we can best work and best agree."

QUERIES

WITH

REPLIES by Prominent Apiarists.

Lengthening the Swarming Impulse.

Query, No. 173.—I notice that many have been advertising, and still advertise queens reared, through the whole season, under the swarming impulse. How is it possible to obtain this swarming impulse at will during the whole period of the queen-rearing business?—P. V.

I do not think it can be done as easily as the advertising can.—JAMES HEDDON.

It cannot be done very practically, but queens reared in full colonies are equally good at all times.—DADANT & SON.

It would be difficult, but possibly by abundant feeding and by crowding the bees, it might be accomplished. I doubt if it is much practiced.—A. J. COOK.

The queen-rearing season might be considered as beginning and ending with the swarming season. A colony may be urged into the swarming impulse earlier or later than usual, by stimulative feeding and giving brood from other colonies.—C. C. MILLER.

Colonies are built up early by giving brood and bees from others, so as to get them to swarm in advance. Late in the season the swarm is hived on frames of brood, which, with feeding, keeps the swarming fever up. Again, when a surplus of queens is given in the summer, they can be kept in small nuclei until they are wanted later.—G. M. DOOLITTLE.

It is not possible at all. I was of the impression that it was generally known that such advertisements were not intended to be taken literally. When a man advertises to do an absurd or improbable thing, the safe way is to pass him by. The swarming impulse can be lengthened out almost indefinitely by artificial means. But this process is "artificial." It is clap-trap to call it "swarming impulse." Better queens can be reared by artificial means than are produced in the natural way, because by artificial means intenseness can be added to natural desire, and the bees can be controlled as to the age of the larvæ they are to nurse into queens.—G. W. DEMAREE.

It does not take long to start the swarming impulse when there is little nectar in the flowers, by stimulative feeding. Whether the impulse excited leads to the building of queen-cells or not, it is certain that with strong colonies in proper season, as valuable queens can be reared under the impulse of stimulative feeding as under the impulse of incoming nectar.—G. L. TINKER.

This "swarming impulse" is one of the tricks of the trade, and is made use of by some for the purpose of increasing trade. In very warm climates queens may be reared during nearly the whole year, but the "swarming impulse" cannot be controlled even in such climates, much less in those where winters more or less severe always follow in regular rotation.—J. E. POND, JR.

◆

Hive-Entrances in Winter.

Query, No. 174.—Supposing Langstroth hives to be properly packed for wintering out-of-doors in latitude north of the 45th parallel north latitude, how should the entrances be managed, as to space, in mild and in the coldest weather?—M. D. Wisconsin.

I would leave them the same in the winter that they are in the summer.—W. Z. HUTCHINSON.

I leave my hive-entrances open the full length, and leave a board in front of the hive to keep snow and wind out.—G. M. DOOLITTLE.

I would say, leave the entrances entirely open to prevent dampness from condensing on the inner walls.—G. W. DEMAREE.

I should pick up the entrances (taking the hives with them) and place them in a cellar; but if I had to leave them out, I should contract them to about one inch in length, and leave them thus all winter and spring. If you are afraid that dead bees will fill such entrances, I think that a good cellar and good food will prevent their dying.—JAMES HEDDON.

That would depend upon whether there was upward ventilation or not. With top ventilation the entrances should be very small—$\frac{3}{8}$x3 inches. With lower ventilation only, the entrances should be large—$\frac{3}{8}$x8 inches—and protected from driving winds. I would not contract the size of the entrances until breeding began in the spring.—G. L. TINKER.

My experience leads me to give large entrances, both in mild and in the coldest weather. I winter my bees in Langstroth hives on the summer stands altogether, and I give the full width of the entrances. I have lost but 2 full colonies in many years, and both of those starved last spring, at a time when I was confined to my room with sickness.—J. E. POND, JR.

◆

Changing the Location of an Apiary.

Query, No. 175.—My bee-yard at present has a gentle incline to the south, and is in the north part of an apple orchard, well protected from winds, but I think it is getting somewhat too shady. Next spring I contemplate moving my bees just over the ridge, having a similar descent to the north, and containing three-fourths of an acre, with no shade except three or four small pear trees, but protected by a dense belt of evergreens 15 to 20 feet high on the north and east, with a good wind-break on the west. Both yards are equally convenient to the house, and the soil is dry. Would the move be wise, or otherwise?—Norwich, Ont.

If the apple trees were properly trimmed I should prefer to let the bees remain on the south side of the ridge.—G. L. TINKER.

I think that I should leave them where they are, and thin out the shade.—C. C. MILLER.

Wise.—W. Z. HUTCHINSON.

If the shade is from apple trees only, we would leave them where they are. We do not like placing hives facing against the slope, which would be the case on the opposite hill.—DADANT & SON.

I would move them if I liked the new location best. See my answer to Query, No. 170.—G. W. DEMAREE.

I should prune the apple trees thoroughly so as to let the sunshine through them, thus benefiting both the bees and the fruit. Ground decending to the north is not a good location for an apiary.—G. M. DOOLITTLE.

I do not think that there would be any advantages gained by moving, that would overbalance the trouble caused by so doing. It is easy to prune the fruit-trees, and they will probably need such pruning. Shade from well-kept fruit-trees is an advantage, as a rule.—J. E. POND, JR.

I should rather have the southern slope on one account, if I wintered my bees out-doors; but I think I should move them, and winter them in a good cellar.—JAMES HEDDON.

If the present place is so shaded as to be damp and dark, the change would be wise. A shade-board is much to be preferred to any other shade, so the absence of shade need be no objection to the new ground.—A. J. COOK.

◆

OUR CLUBBING LIST for 1886.

We supply the **American Bee Journal** for 1886, and any of the following publications, at the prices quoted in the last column of figures. The first column gives the regular price of both. All postage prepaid.

	Price of both.	*Club*
The American Bee Journal	1 00	
and Gleanings in Bee-Culture	2 00	1 75
Bee-Keepers' Magazine	2 00	1 75
Bee-Keepers' Guide	1 50	1 40
The Apiculturist	2 00	1 75
Canadian Bee Journal	2 00	1 75
Texas Bee Journal	2 00	1 75
The 7 above-named papers	6 50	5 50
and City and Country	2 00	1 50
New York Independent	4 00	3 30
American Agriculturist	2 50	2 25
American Poultry Journal	2 25	1 75
and Cook's Manual	2 25	2 00
Bees and Honey (Newman)	2 00	1 75
Binder for Am. Bee Journal	1 75	1 60
Apiary Register—100 colonies	2 25	2 00
Dzierzon's Bee-Book (cloth)	3 00	2 00
Dzierzon's Bee-Book (paper)	2 50	2 00
Quinby's New Bee-Keeping	2 50	2 25
Langstroth's Standard Work	3 00	2 75
Root's A B C of Bee-Culture	2 25	2 10
Alley's Queen-Rearing	2 50	2 25
Farmer's Account Book	4 00	3 00
Guide and Hand-Book	1 50	1 30

◆

The Time for Reading has now come. The long winter evenings can be utilized by reading up bee-literature. We have all the newest bee-books and can fill all orders on the day they are received.

CONVENTION NOTES

North American Bee-Keepers' Society.

We here present our readers with some of the matter omitted in the last two issues of the BEE JOURNAL:

REPORTS OF VICE-PESIDENTS.

Mr. O. O. Poppleton, Vice-President for Iowa, made the following report of the results of bee-keeping in Iowa during the past 12 months:

Bees were put into winter quarters last fall in very poor condition generally, as regards numbers of bees in each colony and amount of stores. The winter was a very hard one, followed by one of the worst—if not the worst—springs experienced during a long term of years. The result has been to entirely destroy nearly or quite ⅔ of the total number of colonies put into winter quarters last fall, and to leave many of the colonies that were saved in very poor condition at the commencement of the honey harvest.

The honey harvest itself was much below the average, and from the best information I can get, I estimate the total production of honey in Iowa, in 1885, at about ¼ the amount obtained last year.

Foul brood, which was reported last year as being present in our locality in this State, is not reported as being in existence anywhere in the State this year. What is known by some as the "trembling disease," by others as the "nameless disease," has been reported from several apiaries this year. As the causes and characteristics of this disease, as well as its prevention and cure, has never, so far as I know, been thoroughly investigated by any competent person, I would respectfully request that this Society either appoint a committee to make such an investigation, or formally request Prof. N. W. McLain, of the United States Entomological Station at Aurora, Ills., to make such investigation.

Mr. Wm. Muth-Rasmussen, of Independence, Calif., reports as follows for that State:

As far as I know, no vice-president has been appointed for California uring the last two years. I can herefore only report for myself.

i While the southern counties,accordng to all published reports, have had a very poor honey harvest, the season here has been about an average one. The reason is that while the southern counties depend almost altogether upon wild vegetation for bee-forage, our principal honey scource, here, is alfalfa, which is irrigated and never fails to yield *some* honey. Although alfalfa is grown to some extent in the southern counties, it is used there mostly as cattle-feed, and is cut as soon as the bloom appears, 4 to 6 times, according to the season. It is therefore of no avail to bee-keepers. Such hay is, however, not suitable for horses, being to "washy;" and as alfalfa is here used also for horse-feed, it is not cut until it has formed seed, or is nearly out of bloom. On a few farms alfalfa seed is raised for the market, and therefore our bees have the full benefit of the bloom while it lasts.

In "dry" seasons, when there is a scarcity of wild flowers, the alfalfa honey is stored in its purity, and equals any honey in color, flavor and body, being about as clear as white sage honey. In "wet" seasons it is, however, mixed with honey from other flowers, and is of an amber color. Our honey invariably granulates when frosty weather sets in, but until then it remains liquid, and will be so thick that a dish of it may be turned upside down, without its running out.

Alfalfa, if rightly treated, is, to my mind, equal, if not superior, to any other plant which can be cultivated for honey, hay and seed. The stubble also affords fine pasture for stock, but cattle are liable to become bloated, if allowed to graze on it while it is wet or frosted. This is the only danger that has to be guarded against. All grass-eating animals are exceedingly fond of it, whether it is green or cured. It also affords fine pasture for hogs and poultry. As the taproot penetrates from 20 to 40 feet down into the soil, the plant is not affected by drouth, and, when intended for seed, is not irrigated. When it once has secured a "stand," it will hold its own forever after, reseeding itself, and choking out, by its dense growth, all other plants which may attempt to share the soil with it.

I hope that you may have a pleasant and profitable meeting.

Mr. H. L. Jeffrey, Vice-President for Connecticut, gave the following report:

Connecticut has not produced over two-thirds as much honey this year as last (1884), and perhaps not over half the amount, last year being the best season for white clover and buckwheat that we have known for eleven years. It gave us two unusually good honey-flows, which made almost an incessant flow from May 8 to Sept. 27, or more than 140 days of average abundant honey-flow, against less than 50 days in 4 flows this season, with no white clover or buckwheat.

Though it has been common for well-cared-for colonies of bees of good blood to produce 100 pounds each, this year, it is also more common for the uncared-for "scrub" colonies to be deficient in winter stores, without yielding any surplus. Although Connecticut annually consumes from 100 to 125 tons of honey, and although bee-keeping is in a growing condition, yet it would be extremely difficult to collect 40 tons of surplus Connecticut honey. Judging the State by an effort to obtain a close canvass of 13 towns, it gives only a return of 12,400 pounds, which is far less than half what the grocers sell in some of the towns. Learning that the local producers have customers, and retail their product, and that the store supply is almost exclusively an import (the production being from 40 to perhaps 70 tons as a minimum and maximum amount), and that well-cared-for apiaries of selected colonies will give a surplus of 100 or more pounds per colony, it shows that Connecticut is a remunerative location for the skilled apiarist.

Connecticut possesses a few well-read apiarists, but not one specialist, that I know of, as a honey producer. In all cases it is only a "side-show," and yet not a few could cast a vote on either the reversible frame, 4¼ section-box, skeleton honey-board, or on any of the other modern fixtures, and all of them tried extensively enough to warrant an impartial decision. One apiarist has tried the 1⅜-inch-wide end-bar, with the reversible wire, to the extent of 25 hives, and they have been tried to stay; there are about 150 of such constructed hives put into winter quarters, and trying a few by the side of other hives for 8 years, the number has gradually grown until another season will see a few thousand of the ⅞-inch-wide end-bar combs for sale cheap, or some kindling wood and wax in the place of the frames and combs. Saw 1⅜-inch thick plank in ⅜-inch thick strips, and make the tops and bottoms 5-16x⅞, let into the ends, and use reversible wires, the hives to be 12¼ inches wide, with 2 division-boards scant ½-inch thick, confining the heat between each two combs to its own space. The advantages are, the prevention of hoar-frost at each end of the combs, the prevention of each comb being built to the end of the hive at every sudden flow of honey, the possibility to take out any one comb without being obliged to move each of the others separately, the convenience of moving a hive without every comb swinging against its neighbor, the ease with which a hive or nucleus can be set up in a hurry, as well as many other superior reasons.

This is the out-growth of some old cast-off Quinby standing-frames forced into use in 1877, by a sudden call for frames and hives, and from then until now they have been used as standing-frames at one time, and at another time as hanging-frames, by driving a nail in the end-bar; and sometimes one side being up, then the other side up, the twisting and turning for fun and for fact caused 5 complete hives after having wedge-sticks placed between the combs to be turned bottom-side up, in 1883, to get the crates of 18 prize-boxes each as the receptacles of about 3 inches deep of honey under the top-bars of all the combs, because the first crates of boxes were not taken off soon enough, and up went the honey. The same thing was tried in 1881, with 4 American hives whose combs were half full, and, lo, the honey was moved.

The objections to a stationary or single-position, spaced frame, are all converted into advantages by using it reversibly, and there will yet be living proof that the Quinby standing-frame, of the Langstroth size, and with reversible wires to combine the labors of Fathers Langstroth and Quinby in an established union of obliteration to the confused multitude, and give us all peace and sameness to perfection in frame and hive.

Mr. C. P. Dadant, of Hamilton, Ill., read the following, on

EXTRACTED HONEY.

Nothing is more appetizing than a pretty section of white comb honey. But comb honey will always be a fancy article, and will have to sell much higher than extracted honey, in order to pay the bee-keeper that produces it. The aim of bee-culture, in its progressive condition, is to produce honey for the masses—for the laborers—who cannot afford to pay for it any more than they can pay for the average grades of sugar.

Besides, comb honey, although it is a ready selling article, will not fill the place of liquid honey in a great many instances—to make pastry or cakes, or to use in teas, in case of sickness. It is therefore an evident fact that the sale of comb honey will always be limited, and that the sale of extracted honey will increase in proportion to its production, provided the bee-keeper will take pains to introduce the use of it among his neighbors. This we have ascertained personally by our own sales. In 1868 our sales of extracted honey of about 500 lbs., were difficult and slow; now, our crops of 10,000 to 35,000 lbs. are easily disposed of, and although the prices are lower than formerly, yet we find the producing of it to be a remunerative business. We sell more honey to-day in our town of 1,500 inhabitants than we could sell 20 years ago in the city of St. Louis.

We consider the production of extracted honey, exclusively, as of much advantage to bee-keepers, for a number of reasons, prominent among which are the following:

1. The apiarist who aims to produce honey only for his own use, can produce much more of this honey than of comb.

2. The outlay for combs, crates and boxes is not an oft-repeated expenditure, since when once supplied the stock remains.

3. The bees need much less watching. The almost total prevention of swarming by the production of extracted honey is no longer a matter of doubt. For this purpose, it is only necessary to provide the colonies with a large quantity of empty combs ahead of their needs. These combs are not wasted, but are preserved from year to year.

4. By the production of extracted honey, exclusively, an apiarist can take care of more than four times as many colonies, as he can by the production of comb honey; thereby enlarging his profits greatly, even if he has to sell the extracted honey much cheaper than comb honey.

It would be a great mistake to imagine, as some have asserted, that there is already an over-production of honey. Honey of all grades is only getting to be a staple. We do not have to look back many years to the time when its sale was so insignificant that it was only *occasionally* quoted in the market reports of the large dailies. When honey is found as often as is sugar, molasses, or as butter, on the tables of the average farmer and of the average laborer; when it is found by the barrel or by the keg in our wholesale and retail groceries—then, and only then, can we say that we are producing as much honey as the country can use.

The "revolution in bee-keeping," of which Father Langstroth speaks, in his book, has taken place, but the bee-keeping fraternity is only beginning to find out all the advantages and all the growth which the bee-business must derive from this revolution.

C. P. DADANT.

Dr. Mason described his method of getting extracted honey, but complained that he could not get more than 65 pounds per colony. He was asked how many combs he used, and replied, "eight."

Dr. L. C. Whiting said, If you will "tier up," your hives, and use plenty of combs, you can get twice as much honey.

Mr. C. F. Muth could not comprehend how the Doctor could manage with so few frames. He wanted at least 10 frames for the brood-nest, and then another story for extracting. Even his bees, kept on the house-top in the city of Cincinnati, had given him averages double and even treble what Dr. Mason had obtained, and from hives in the country where they had not so far to fly, he got far more honey.

C. P. Dadant prefers large hives and gives to the bees a plenty of combs in advance of their needs. Honey should not be extracted until ripe. Many bee-keepers think that honey must be sealed before it is ripe. This is a mistake; honey may be ripe before it is sealed, and it may be sealed before it is ripe.

S. T. Pettit—If we leave enough honey in the hives, we do not have to feed sugar, which prevents that much honey being put upon the market, and relieves the market to that extent.

H. R. Boardman—I have given 8 empty frames to a colony of bees in the fall, fed them 50 lbs. of sugar syrup (two parts of sugar and one of water), and they built comb, stored the syrup and wintered well. I have done this with several colonies.

Mr. W. E. Clark said that the President had been the most successful producer of extracted honey in the East, and he would call on him to explain his methods.

Pres. Root, in response, said that it was perfectly true, as Mr. Clarke had said, that Mr. Doolittle's requisites for producing comb honey were just as applicable to the production of extracted honey. A good queen, for example, was just as necessary for the one as the other. In both cases wise manipulation was needed, and it took a large amount of study to know what is wise manipulation. Certainly we must have large colonies of bees to gather the honey, then we must extract it at the time when it could be done to the best advantage and with the least hindrance to the bees. It was hard to lay down specific rules—every bee-keeper must be a law to himself, and find out the methods best adapted to his own locality. Experience must be bought by practice, and at considerable expense; he only hoped that it would not cost others as much as it had cost him. The secret of success lies in having plenty of workers at the right time, and in order to do this we must have good queens. Then comes the question of manipulation. We have had good results from extracting unripe honey, thus saving the bees the labor of ripening it, but the question is, will it pay to do this? I think not. Then, again, there is spring manipulation; spreading the brood, and the like.—In my opinion, we have manipulated many a colony to death. I am getting to think less and less of manipulation. In feeding, we look, not at immediate results, but at the future. We have heard much about adulteration, and we must avoid the very semblance of it. Our product must be even above suspicion. Some of the lower grades of honey are selling so low that it will not pay to sell it and buy sugar.—Bees should never be allowed to "hang out" during a honey harvest; if they do, something is wrong. Our hives have a ventilator, 6x12 inches, in the bottom, which can be opened or closed at pleasure.

Mr. S. T. Pettit gave his experience in producing extracted honey. He had missed it by not leaving the honey in the hive long enough to ripen. One season his honey was all of an inferior quality, owing to this cause. He did not believe that we could ripen the honey as well as the bees themselves do it. He said that we should have at least one-third of the honey capped before extracting, and he believed it was better if all was capped over. He then asked: Do you think, Mr. President, that you can ripen honey artificially as well as the bees can do it?

President Root—I am not *sure*. I know we can ripen it more thoroughly, and I can discover no difference in the taste.

S. T. Pettit—Some have not as keen a sense of taste as have others. I have ripened honey artificially, but it never had the fine, rich, oily, aromatic flavor which honey ripened by the bees had. It is my opinion that bees add, in the ripening process, some animal product (formic acid, perhaps), which the honey can get in no other way.

Rev. L. L. Langstroth did not know that he could add much to the ocean of intelligence that was tiding all around, but he wished to say a word or two. He believed there were many things that the bees could do—certain things better than we can—and ripening honey was one of them. There was too much artificial work in bee-keeping. One bee-keeper had invented nippers to pull dead bees out of the cells, but live bees would do it better.

Dr. Mason said that the "big-bugs" of the Convention had been poking fun at him for getting only 65 pounds of honey per colony, but they would find it impossible to get an average of 300 pounds in his locality—a city on one side and a wilderness on the other. Small as his average yield was, it was larger than that of any of his neighbors. He wished that his critics would show him how to produce 300 pounds per colony, but the trouble was as Mr. Clarke said, they did not to disclose their secrets.

Rev. W. F. Clarke wished to ask if formic acid in honey was not the element which gave it its keeping qualities. He put the question to Prof. Cook. For his own part, he believed that the formic acid was added by the bees in the capping process, which was carried on mainly by the use of their tails—the sting—being the last polishing tool. It was because the formic acid was thus added that honey must be one-third capped to be good, and all capped to be first-rate.

Prof. Cook thought that no one knew how or when the formic acid was added. He was also of the opinion that too much stress was laid on the matter of taste. Few could discriminate as thoroughly as had been suggested.

* * *

Mr. C. F. Muth, of Cincinnati, Ohio, read the following on

THE HONEY MARKET.

A friend asked me, a few days ago, as many had done before, what the reason was for the low prices of honey, whether, in my estimation, honey would remain cheap, whether I thought bee-keeping was overdone, etc. I admit that these are vital questions for us bee-keepers, and it is very proper that we should consult as to the best *modus operandi* as to the improvement of our condition and to elevate our business.

We know from experience that whenever prices are on a level with, or below, the cost of production—no difference whether this is in the line of produce or manufacture—margins are unsatisfactory for producers and manufacturers as well as for dealers. Wheat, corn, pork and barley were very low for a number of years; farming was very unprofitable, and the proportion of failures among grain-dealers and pork-packers was perhaps greater than ever. Bee-keeping was perhaps not more satisfactory than farming; yet, in proportion to its labor and investment, it was far more remunerative, even if the prices of extracted honey ranged between 3 cents and 8 cents per pound, and that of comb honey between 6 cents and 12 cents per pound.

It is bad policy to give up, because we find just as many malcontents in other branches, if we look around us, and it is folly to consider ourselves privileged characters. To indicate our true position, and how to govern ourselves accordingly, is the object of this essay.

It is not over-production which is troubling us, as there was never so much honey consumed as during the past year; but still, less was produced. Our crop was a short one in most parts of the country. Now, if values are governed by supply and demand, this question is proper, viz., "What causes the present low prices?"

The maxim that there is no rule without an exception, may be applied to our case under the rule of supply and demand. The low average value of all produce and manufactures, besides the lack of all speculation in our markets, is, in my estimation, the first cause of the depression of the prices of honey. When times become better, *i. e.*, when a general advance in values takes place, prices of honey will advance with the rest.

The next factor in the depression of prices is adulteration. It is an established fact that extracted honey has become a staple article. A large number of manufacturers using sweets have found that pure honey is the best and cheapest sweet they can get. New converts are made daily. For an illustration I will mention a late case of my own. I have sold, for years, an occasional barrel of honey to pork-packers, but only one would buy with something approaching a regularity. He found that his New Orleans molasses, at times, not sweet enough, while the same quantity of honey would always answer for the same cask of pickle. I sold him 50 barrels of honey for curing meats, a few weeks ago. Other packers having heard of the purchase, bought a few barrels for experiment, and one of them approached me with: "Why didn't you tell *me* about your honey?" "There will be a great deal more honey-cured hams and honey-cured breakfast bacon in our city next season than during the present one. There is no doubt about it; and my next experience will be that some drummer from Boston, New York, Philadelphia or Chicago, will be around and sell to my friends his glucosed honey ½ cent less per pound than they paid me for pure honey. They will buy, and the following season some one will say: "Honey is not much sweeter than New Orleans molasses after all." Such has been my experience before; it will repeat itself. We cannot avoid unfair competition, and there is no harm in telling it. Glucose is made to cheat, and there is money in adulteration. Glucose swells the so-called stock of honey on the market, damages the good opinion entertained of honey, in the estimation of consumers, and brings down the price as a natural consequence. There is no use for me to tell you how to meet adulteration, because every one of us is possessed of more or less of selfishness, and apt to pursue his own course under any circumstances.

There is, perhaps, a third cause for the low price of honey, which should also be mentioned. It is, that very many of our nearest neighbors are not yet aware of the fact that honey is a sugar, and can be substituted for cane-sugar in almost every instance. See that our friends are posted on the subject!

Having shown in the above that the production of and traffic in honey has its reverses, the same as any other branch of business, permit me now to give some points by which we may promote our interests.

Cleanliness around and about eatables makes a good impression upon consumers. We must exercise cleanliness about our apiaries, about our honey, about extractors and extracting. Every quality of honey should be kept by itself, as nearly so as is possible, because most of our manufacturers make a certain grade of goods with a certain flavor with which the taste of their customers has been cultivated; to lose this flavor means the loss of the custom. I have lost several hard-earned customers because I was unable to supply the same flavor, although with hundreds of barrels of honey on hand. They would resort again to cane-sugar as the only means by which to manufacture a regular grade of goods. My latest experience in this direction were my loss of custom for the mangrove honey of Florida. When my supply was exhausted, it was cane-sugar that took its place in the majority of cases, and it will be hard to regain that custom.

Honey should stand in open vessels for evaporation when it comes from the extractors, and be thoroughly skimmed before it is barreled or canned. No lumps of comb, wax, or specks of other impurities should remain in the honey, as nothing is more annoying to manufacturers. They make no allowance for want of cleanliness, but refuse the honey. A sale is often spoiled when the honey is put up in whisky barrels. The inside of the staves were charcoaled, and it is almost an impossibility to separate the specks of charcoal from the honey. Clean barrels for honey every time—or shippers must bear the consequences.

When putting up honey, bee-keepers should at once select packages to suit their trade. If their honey is calculated for the wholesale trade, good, strong cypress, oak or poplar barrels are their best and cheapest packages. I prefer barrels to all smaller packages. Other dealers may require half-barrels or kegs for their trade; but, as stated above, care should be taken by every bee-keeper to have his extracted honey graded, not only according to color, but also according to flavor. I prefer to put up my own small packages to suit my jobbing and retail trade; these are tin pails of 50, 25, 10, 5 and 3 pounds, and square glass-jars holding 2, 1, ½ pound and 5 ounces, respectively. I have an excellent retail trade for square glass-jars, for which nothing but the best clover honey will answer the purpose.

In regard to comb honey, I should say that it must be white and well capped to find a ready sale; if the quality is clover, it is all the better. One-pound sections sell best, but half-pound sections, if well filled, find a ready sale, as do also two-pound sections. No sections should be glassed; but 20 to 30 pounds of honey in neat sections, placed in a neat case with glass on each side, meets with no objection whatever, while sections in the neatest paper-boxes or glassed, are unsalable by the side of it.

Purity, cleanliness and neatness are attractions which should be synonymous with the marketing of honey, and a strict adherence to this principle cannot fail to secure consumers.

C. F. Muth.

After the reading of the essay, some one asked Mr. Muth what size of section was, with him, the most salable.

C. F. Muth—The one-pound section.

Geo. E. Hilton—I have used sections 5x6x1½ inches, and they weigh 1¼ pounds when filled. I find them very salable.

S. F. Newman—If Mr. Muth had only large packages, would he not sell just as many of them as of smaller ones?

C. F. Muth—One-pound sections sell the best. A great many want to buy a "pound" of honey.

James Heddon—I think it will be an injury to bee-keepers to lead them to use any other size of section than the 1¼x1¼. A pound is a good size. My fixtures are adapted to that size. Suppose some one should invent a new style of section, how much better it would be if we all used the same size; how much cheaper they could be furnished us. A comb with a large surface is more attractive, but it will not bear shipment so well; however, if we get the sections well filled and the combs attached all around, as can be done by reversing the sections, a thin comb will bear shipment very well.

C. R. Isham—Honey was much more salable when we were using large sections. Bee-keepers themselves are to blame for the necessity of using small packages. By using large packages more honey is sold at each sale.

T. G. Newman remarked that we needed various sizes to accommodate consumers—but he found the sections holding one-pound by far the most salable.

A. E. Manum—Two years ago I shipped 15 tons of one-pound sections, and 2 tons of two-pound sections. I received returns for the pound sections in a very short time; but it was several months before the two-pound sections were sold. If there was only one size of section used, people would be surprised at the price at which it could be furnished.

James Heddon—I do not know as I would have everybody use pound sections. I have used thousands of half-pound sections; I can secure just as much honey, and have sold it at an advance of 3 cents per pound. I prefer sections that are 7 to the foot, even when separators are used.

Pres. Root—I have found upon a careful examination of the markets, that we need sections of different sizes.

The President called on Mr. T. G. Newman who gave the following on

APICULTURAL NECROLOGY.

Mr. President, Ladies and Gentlemen:

Since last I had the pleasure of meeting with this Continental Society of Apiculturists, many of those who have been our companions in these assemblies have passed from the present state of being, and we are now deprived of their gladsome greeting and hearty welcome. Much as I would like to mention *all* their names in tender remembrance, I find it impossible, because in many cases the surviving friends have not communicated the facts to the apicultural public. Allow me, with affectionate regard, to mention a few of the most prominent of our brothers of America and Europe, who, during the past four years, have been added to that vast army now numbered with the dead!

Of these, four were editors of our bee-periodicals, who had, during their lives, done much to raise apiculture up to its present "standard of excellence," devoting the best energies of their lives to its development and advancement, often sacrificing their ease, comfort, physical strength and wealth to their favorite pursuit. It is true that each one fought a "hard battle"; they were often severely criticised, and sometimes strongly comdemned by those who should have been their constant friends and co-laborers. While admitting that they often erred (for "to err is human") let us cast "the mantle of charity" over "their short-comings," and think only of their good deeds, energetic work, unselfish lives, and the general nobility of their characters!

I will now "call the roll" of those over whom death has triumphed:

A. F. Moon, of Rome, Ga., was one of the founders of this Society, and in the absence of the Rev. L. L. Langstroth, its first President, Mr. Moon presided over the Convention. He was the editor of the *Bee World*, and died on Aug. 2, 1882; aged 58 years. He commenced to keep bees when 11 years of age, and ever after gave the fullest energies of his mind to the advancement of practical bee-culture.

Rev. Jasper Hazen, Woodstock, Vt., after 25 years of progressive bee-culture, died on April 13, 1882, aged 92. He strenuously advocated the use of surplus honey-boxes, invented a hive, and welcomed the introduction of the Italian bees. He was also a vigorous apicultural writer 20 years ago.

Edward Townley, of Cincinnati, O., died in the 80th year of his age, in July, 1882. He commenced to keep bees in 1850, and built up a large apiary at Mt. Auburn. He was the author of a book on bee-culture, and devoted his energies to apiculture.

Jesse C. Estlack, of Littleton, Colo., died on Aug. 5, 1885, at the age of 64. He went from New Jersey to Colorado in 1859, and there established an apiary in which he took much delight.

Theodore Houck, of Canajoharie, N. Y., died on June 16, 1883, at Denver, Colo., whither he went on account of failing health. He was one of the editors of the Bee-Keepers' *Exchange*, and was never happier than when among his bees. The last Convention he attended was at Albany, N. Y., in January, 1883, and was one of its most energetic members. His age was 26.

E. F. Cassell, of Illinois City, Ills., was killed on Oct. 6, 1883, while attempting to board a moving train. He had been a prominent and enthusiastic bee-keeper for 15 or 20 years.

William Howlett, of Beaver Lick, Ky., was killed by lightning on May 19, 1884, while at work on his farm. His apiary contained 125 colonies of bees. He attended the Cincinnati meeting of this Society, and took part in the deliberations.

D. S. Given, of Hoopeston, Ills., the inventor of the Foundation Press, died at the age of 40, on July 10, 1884, at Los Angeles, Calif., whither he had gone for his health. His kind disposition endeared him to all who knew him, and his name will go down to posterity as one who did his part to make apiculture practical.

John Madden, of Davenport, Iowa, was thrown from his wagon and killed on Sept. 19, 1884. He was one of the organizers of the Eastern Iowa and Western Illinois Bee-Keepers' Association, and was filled with energy and enthusiasm. There were 225 carriages in his funeral procession (10 being filled with apiarists); this proves how much he was beloved by those who knew him.

William W. Cary, of Colerain, Mass., died on Dec. 9, 1884, in the 70th year of his age—full of years, ripe in experience, and faithful in friendship. At the time of his death he had some 300 colonies of bees. He was intimately connected with the first importations of Italian bees into America, and was the faithful coworker with Father Langstroth, in all his efforts to revolutionize bee-keeping in America.

R. M. Argo, of Garrard Co., Ky., died of congestive chills, on Feb. 13, 1885. As one of the pioneers of modern apiculture, he wrote extensively some 20 years ago. He was a well-posted and practical bee-keeper, and reared many very fine queens.

William Williamson, of Lexington, Ky., died on Feb. 13, 1885, at the age of 40. Those who attended the meeting of this Society at Lexington, in 1881, will witness to his zeal and enthusiasm, as well as his whole-souled disposition. He was one of the projectors of the International Congress at New Orleans, but died just before it convened.

Rev. Herbert R. Peel died in England, on June 2, 1885. He was the editor of the *British Bee Journal*, and Secretary of the British Bee-Keepers' Association. In his death our English brethren have sustained an irreparable loss. He was a firm friend, an indefatigable worker and a progressive apiarist.

Prof. Von Siebold died in Germany on April 7, 1885. He was the faithful friend of Father Dzierzon, and was one of the first to accept the theory of parthenogenesis. He was a prominent scientist, and rendered much assistance to the development of rational bee-culture.

Prof. Andreas Schmidt, for 20 years editor of the *Bienen-Zeitung*, the leading apicultural publication of Germany, is also numbered with the dead. He was a co-worker and an ardent admirer of Father Dzierzon, whose Golden Jubilee was celebrated in Germany last September with great enthusiasm. In his death our German brethren have lost a master mind, a thorough scholar, an energetic worker, and a faithful friend.

There are many, many others—but time would fail me to speak of all those who through faith in scientific research, and devotion to experiments and manipulations, have helped to dispel the darkness and scatter the light,—as if by "magic wand" commanding modern apiculture to "arise and shine"—pulsating and luminating every zone!

Men pass away! Monuments crumble into dust! and all that remain of human greatness, are thoughts and deeds. By these we may "lay up treasures where moth and rust *cannot* corrupt." In death we take nothing with us but that which we really are! Shrouds have no pockets! Coffins no coupon-drawers! Crowns fall off at the touch of death! Stripped of our robes of state, insignia, uniforms and decorations, we then shall stand for just what *we are!*

Our best thoughts and noble deeds, given to the world by the aid of the printed page, may live on and energize a world after we are crumbled to dust. True men *live*, long after they have passed from this stage of action. The ponderous steam-engines which brought this Convention together, are but the spirit of James Watt living again in our very midst! Modern apiculture is but the embodiment of the thoughts and lives of those who have gone before us; and our thoughts and work, which may add to its practicability, may live on after we are gone!

The second President of this Society—the lamented Moses Quinby (than whom apiculture never had a truer and more unselfish friend), now, in this very assembly, *lives again* in those who are practicing his thoughts, theories and progressive methods of bee-culture; as well as in those who love him for his scientific research, grand character, and noble life!

That band of brothers whose names we have to-day inscribed on our "Roll of the Honored Dead," *live again* in our tender remembrance, and we may almost seem to catch a glimpse of "the Angel of Life," with open scroll, recording their names with the plaudit—"Blessed are the dead;"—"they rest from their labors and their works do follow them."

"Breathe soft and low, O whispering wind,
Above the tangled grasses deep,
Where those who loved me long ago
Forgot the world and fell asleep.
So many voices have been hushed,
So many songs have ceased for aye,
So many hands I used to touch
Are folded over hearts of clay.

"I only know that, calm and still,
They sleep beyond life's woe and wail,
Beyond the fleet of sailing clouds,
Beyond the shadow of the vale.
I only feel that, tired and worn,
I halt upon the highway bare,
And gaze with yearning eyes beyond—
On fields that shine supremely fair."

THOMAS G. NEWMAN.

Prof. Cook remarked that he was very much interested in the subject, and remembered with pleasure many meetings when those mentioned by Mr. Newman had been present. He spoke particularly of Mr. Moon, the original projector of the National Society, and Mr. Williamson, who so nobly managed the entertainment of the Society at Lexington, Ky. He moved a vote of thanks to Mr. Newman for placing their names and history before the Society, and also that it be spread upon the minutes. Carried unanimously.

PASTURAGE FOR BEES.

M. D. York—I have basswood trees that were transplanted a year ago last spring, that blossomed full this year. I have transplanted a tree 3 inches in diameter.

E. L. Hubbard—Will it pay to use land worth $50 an acre to raise honey-producing plants?

T. G. Newman—In my opinion, it would.

M. D. York—I have raised Alsike clover upon land worth more than $50 per acre, and the seed alone paid me $25 per acre.

Mr. E. L. Hubbard mentioned a plant that grew a few miles south of Buffalo, N. Y., that was an excellent honey-plant.

Mr. Hiram Chapman described the plant as resembling plantain. A specimen of it was exhibited.

Dr. L. C. Whiting—It would be a most excellent and promising plan if some young men would go to work with our red clover, in the way pointed out by Mr. E. E. Hasty, and develop a strain with short tubes.

James Heddon—I do not think it will ever be profitable to raise honey-plants on land worth $50 per acre. Where there are waste-places it may pay to scatter the seeds of honey-plants. One plant that I would recommend is what is called "pleurisy root."

MISCELLANEOUS.

The Secretary read a letter from Mr. Turner Buswell, of Solon, Me., asking the Society to consider the advisability of publishing, in a pamphlet form, a report of its proceedings, and the matter was referred to the committee on questions.

Pres. Root—I have requested that samples of honey be sent to me, that I might send them to the government chemist, Prof. H. W. Wiley, at Washington, for analysis; but the report that the Professor has already made of samples of honey that he has analyzed, leads me to doubt the advisability of such a course. Too large a percentage of the samples were pronounced impure. I should not like to send my honey there and have it pronounced adulterated.

C. F. Muth—Myself and some friends sent some honey there that we *knew* to be pure, and it was pronounced *impure*. I do not think that we shall send any more.

Prof. A. J. Cook then read a portion of the published report of Prof. H. W. Wiley, of the Department of Agriculture at Washington, giving his analysis of different samples of honey furnished him by bee-keepers. In his annual report he put down many samples as "apparently pure," and many as "probably impure." The Professor said that it was the business of a chemist to *know*; and if he could not analyze such products to a certainty, he should say so in his report.

QUESTION BOX.

The committee on questions reported as follows:

Will it pay to raise red raspberries for pasturage on land worth from $100 to $150 per acre? Yes, if the crop of berries also paid.

What is the smallest amount of honey needed for winter stores for a strong colony, and what is the best kind of honey to use? Fifteen to 40 pounds of well-ripened honey.

What per cent. of those entering bee-keeping succeed? Two per cent.

Will thin combs, in sections, sell as well as thick ones? Yes.

Shall we use separators? Yes, if you cannot get straight combs without them.

How shall bees by the pound be placed upon combs? Place the queen on the combs, then shake the bees on the combs.

What shall be done with honey-dew? Sell it, or feed it sparingly to the bees in the spring.

Is a coal-furnace objectionable in a cellar where bees are wintered? We do not think favorably of it.

What width of sections is best? One and one-half to 1⅝ inches without separators; 1⅞ to 2 inches with separators.

Has the queen been seen depositing drone-eggs? This committee has not seen her doing so.

Are queens reared from transferred larvæ as good as any? Yes.

How are the Carniolans regarded? Favorably, except excessive swarming.

Will reversing combs secure the destruction of queen-cells. Report says yes.

H. R. Boardman, S. T. Pettit, S. F. Newman.
Committee on Questions.

The committee on exhibits reported the following articles on exhibition:

M. H. Hunt, Bell Branch, Mich.—A chaff hive, one-piece V-grooved sections, and extracted honey in glass cans and jars.

Will Ellis, St. Davids, Ont.—Thick and thin comb foundation, and sections.

Reynolds Bros., Williamsburg, Ind.—Sample of fine flavored and light colored fruit-bloom honey.

Berlin Fruit Box Co., Berlin Heights, O.—A crate of 500 one-piece, sliced, V-grooved sections; section-case to be used with or without separators; veneer separators, top feeder and strawberry baskets.

G. W. Stanley & Bro., Wyoming, N. Y.—An automatic, vertical-geared honey-extractor; much improved on those formerly made.

Dr. A. B. Mason, Wagon Works, O.—Blocks of candied honey on plates, sweet clover, form for nailing frames, wiring-board, reversible frame, and a machine for making holes in frames for wiring.

Chas. F. Muth, Cincinnati, O.—A variety of his improved, all-metal smokers.

J. Van Deusen & Sons, Sprout Brook, N. Y.—A large quantity of thick and thin foundation, both wired and unwired.

Frank A. Eaton, Bluffton, O.—A section-case for use without separators, and a case of 56 one-pound sections of white clover honey.

Chas. Dadant & Son, Hamilton, Ills.—Samples of heavy and thin foundation varying in weight from 5 to 11 square feet to the pound.

Amos A. Ressler, Sandersburg, Pa.—Extracted locust honey.

Prof. A. J. Cook, Lansing, Mich.—Extracted white clover honey, and a sample of plant-lice honey from northern Michigan.

E. J. Cook, Owosso, Mich.—Extracted basswood honey.

Hiram Chapman, Versailles, N. Y.—Some heads and seeds of a new honey-plant (name unknown), and honey from the same.

J. J. Bradner, Findlay, O.—One-piece V-grooved sections.

John Rey, East Saginaw, Mich.—Extracted honey in glass jelly-pails.

Newman Bros., Norwalk, O.—Several cans of extracted honey.

W. E. Clark, Oriskany, N. Y.—Dovetailed white poplar, and nailed spruce sections; frame-spacers, Quinby hive-clasps, Van Deusen feeders with brackets, Quinby's new bee-keeping revised by L. C. Root, and a quantity of Quinby smokers from 2 to 3½ inches.

Geo. E. Hilton, Fremont, Mich.—White comb honey, gathered from a plant on the Michigan river, known there as "cleaver;" extracted basswood honey, and large photographs of residence and apiary.

D. A. Jones, Beeton, Ont.—Large variety of labels for both comb and extracted honey; very smooth one-piece sections as they came from the saw; nine different widths of one-piece sections, a reversible honey-crate for use on the hive, and for shipping any sized sections; sections slotted on four sides, section-case for any width sections, slotted queen-excluding honey-board, new gearing for honey-extractor to permit the instant removal of comb-basket; a double and a single Benton shipping queen-cage, Canadian bee-feeder, winter feeder for "Good" candy, zinc honey-board and queen-excluder.

Jas. Wales, Belleville, Ont.—Fine specimen of honey-cake.

E. Nutting, Kent, O.—Drone-trap.

H. D. Davis, Bradford, Vt.—Surplus and section shipping-case, and four-piece dovetailed sections.

Rev. W. F. Clarke, Guelph, Ont.—His renowned hibernating hive stand.

Bingham & Hetherington, Abronia, Mich.—Honey-knife.

E. S. Miller, Dryden, Mich.—A Falkner chaff-hive with wintering and surplus arrangement, and a perforated-zinc queen-excluder.

P. L. Viallon, Bayou Goula, La.—Comb built by Mexican honey-wasps.

Joshua Bull, Seymour, Wis.—Extracted honey.

There was also on exhibition some 2-ounce sections of comb honey from W. Harmer, of Manistee, Mich.

A. B. Mason, G. B. Hall, G. M. Doolittle,
Committee on Exhibits.

Local Convention Directory.

1886. *Time and place of Meeting.*

Jan. 8.—Northern Ohio, at Wellington, O.
H. R. Boardman, Sec., E. Townsend, O.

Jan. 12.—Cortland Union, at Cortland, N. Y.
W. H. Beach, Sec., Cortland, N. Y.

Jan. 13—15.—Nebraska State, at Lincoln, Nebr.
W. F. Wright, Sec., Johnson, Nebr.

Jan. 19.—N. W. Ills. & S. W. Wis., at Freeport, Ills.
Jonathan Stewart, Sec., Rock City, Ills.

Jan. 19—21.—Maine, at Skowhegan, Me.
Wm. Hoyt, Sec., Ripley, Me.

Jan. 20, 21.—Indiana State, at Indianapolis, Ind.
F. L. Dougherty, Sec., Indianapolis, Ind.

Jan. 20, 21.—N. E. Ohio & N.W.Pa., at Meadville, Pa.
C. H. Coon, Sec., New Lyme, O.

Jan. 21.—Champlain Valley, at Middlebury, Vt.
R. H. Holmes, Sec., Shoreham, Vt.

Apr. 27.—Des Moines County, at Burlington, Iowa.
Jno. Nau, Sec., Middletown, Iowa.

☞ In order to have this table complete, Secretaries are requested to forward full particulars of time and place of future meetings.—Ed.

SELECTIONS FROM OUR LETTER BOX

Good Report.—Wm. Curran, (3—10), Littleport,♂ Iowa, on Dec. 12, 1885, says:

I commenced the season of 1885 with 3 colonies of bees, and increased by natural swarming so I now have 10 well constituted colonies, from which I extracted 436 pounds of honey. The basswood yielded this year. My honey is all from white clover. I obtained very little fall honey, though I did well enough, considering my experience.

Hard Winter Expected.—W. H. Pudney, Sherburne,⊙ N. Y., on Dec. 14, 1885, says:

I think that we are going to have a hard winter for bees. I had 4 colonies last spring, have increased them to 12 colonies, and obtained 300 pounds of comb honey. I did not have the time to work with them as I would wish.

Report for 1885.—S. H. Waggoner, Godfrey,♀ Ills., on Dec. 18, 1885, says:

I commenced the season of 1885 with 30 colonies of Italian bees, and increased them to 50, by natural swarming. I obtained about 1,000 pounds of honey in sections, and 500 pounds of extracted honey. I have 47 colonies in winter quarters in good condition.

Black Locust Honey, etc.—N. H. Rowland, Keene,⊙ Ky., on Dec. 9, 1886, writes:

I have 45 colonies of bees, about half of which are prepared with chaff cushions, as I always prepare them, and the other half being just as they "fixed" themselves, with frames in both stories of the hives. I have lost but 3 colonies in 4 years, and that was caused by mice. The past season was a very poor one, the white clover having been killed to a considerable extent, it yielded but little honey. The black locust bloomed profusely, and from that source I obtained as much as 90 pounds each from strong colonies. From 30 colonies, spring count, I obtained over 1,500 pounds of the finest honey that I ever saw. I sold all the honey I had to spare before I was hardly through taking it from the hives. I have built up a home market that takes all the honey that I have to dispose of.

Wintering Bees.—A. A. Stewart, of Lynnville, Ont., writes as follows:

I had 3 colonies of bees packed on the summer stands, and about Dec. 1 I noticed that the mice were troubling one of the colonies. I unpacked and removed all 3 colonies upstairs in my store house, leaving plenty of ventilation, the entrances open, and I covered the back, top and sides with chaff. How will they winter? Did I do well in moving them? They are very strong in bees, and the hives are very heavy with honey.

[It is my opinion that the wintering problem does not hinge directly upon any of the points which you bring forward in your statement of what you have just done with the 3 colonies. If the remainder of this winter is going to be as warm as the part just passed, it would have been best to have allowed them to remain as they were on the summer stands; but if we are to have a repetition of last winter, you did best by moving them, especially if the temperature of the room they now occupy will not go below 45° Fahr. Keep up the temperature of the room as above, and I predict success.—James Heddon.]

Bee-Interests Advancing.—W. F. Wright, Johnson,☌ Nebr., on Dec. 12, 1885, writes:

The bee-interests of Nebraska are advancing, notwithstanding the back-set that bee-keepers received last winter. The American Bee Journal is the best I have seen out of a half-dozen bee-papers, and with only 20 colonies of bees I cannot do without it the coming winter. Our annual Farmers' Institute meets on Jan. 19, 1886, and continues for 4 days.

Arranging an Apiary.—J. W. Margrave, Hiawatha,♂ Kans., on Dec. 13, 1885, writes:

I would like to describe the arrangement of my apiary the last season. It may be old, but it was new to me. I laid it out in the form of a hollow square, placing the hives 5 feet apart from centre to centre, all facing outward; then I could do my work in the apiary and be all the time behind the hive, and not, as heretofore, stand behind one row and in front of the next row. I never like to insult a colony of bees by standing in its doorway, for two reasons, viz., first, I think it very impolite to do so, and second, the bees often have a very sharp way of resisting such impertinence. If I had more hives than would fill the entire square, I would form a second square inside of the first, only reversing the entrances, having them face inward. Then I could pass around the entire apiary and be in the rear of each hive. I paid particular attention during the season, and could detect no difference in those facing north from those facing to the east, or indeed any of the others; all did about equally well where the internal conditions were the same. I think that the plan is a good one, especially where one is limited for room, as a great many colonies could be kept in a very small space.

Experience in Bee-Keeping.—J. P. Hensley, Grand Island,⊙ Nebr., on Dec. 11, 1885, says:

My experience in bee-culture for the year 1885 is as follows: I commenced last spring with 1 colony, increased to 4, by division, and obtained only about 10 pounds of honey. I have packed them for the winter on the summer stands with oat-chaff. I had to feed out one-half sugar syrup for winter stores. The last flight they had was on Dec. 4. I think that I shall see 4 live colonies in the spring in fair condition; at any rate I shall make my little report in the spring; but one thing I shall not do, *i. e.*, I will not unpack them as soon as I did with my only colony of last spring. I am new in the business, but I have read the BEE JOURNAL very carefully, and I think I have profited by it, and by what practice I could get, and at the same time attend to my business.

The Season of 1885.—W. Stout, Delaware City,δ Del., on Dec. 14, 1885, writes:

Last fall I had 10 colonies on the summer stands, and all came through the winter in good condition. First swarms came out on the last day of May and June 1, but the spring was so cold, with high winds. There seemed to be no nectar in the clover, so I did not obtain more than 150 pounds of clover honey. The fall flow began about Sept. 1, which was 3 weeks behind the usual time; it gave me 150 pounds more of comb honey and 100 pounds of extracted. I increased my apiary to 15 colonies and 1 nucleus. I hope that next spring will be earlier than the last was, for when we have a backward spring in this locality we generally have a failure of spring honey, as we have no basswood to fall back upon, but have to wait until fall. I hope for better things next year.

System and Success.

☞ All who intend to be systematic in their work in the apiary, should get a copy of the Apiary Register and commence to use it. The prices are as follows:

For 50 colonies (120 pages)...............	$1 00
" 100 colonies (220 pages)......	1 25
" 200 colonies (420 pages)...............	1 50

The larger ones can be used for a few colonies, give room for an increase of numbers and still keep the record all together in one book, and are therefore the most desirable.

Convention Notices.

☞ The annual Convention of the Indiana State Bee-Keepers' Society will be held at Indianapolis, Ind., on Jan. 20 and 21, 1886. The meetings of this Society have been very successful in the past, and the coming meeting promises to be still better. The meeting will be held in the rooms of the State Board of Agriculture, and it is one of a series of meetings held by the different Societies of the State, which pertain to the specialties of Agriculture, viz., Dairying, Wool-Growing, Swine-Breeding, Poultry-Raising, etc. Reduced rates are offered at Hotels, and everything possible will be done to make the meeting entertaining and instructive. A very complete program is being prepared, with ample time to discuss the important subjects of particular interest to bee-keepers. A cordial invitation is extended to all bee-keepers, with the hope that they will attend, and thus make the Convention of still greater importance.

FRANK L. DOUGHERTY, *Sec.*

☞ The annual meeting of the Cortland Union Bee-Keepers' Association will be held in Union Hall at Cortland, N. Y., on Jan. 12, 1886, at 10 a.m. It is hoped that all interested in apiculture will make an extra effort to be in attendance at this meeting. Those unable to attend this meeting are requested to send to the Secretary, reports of their apiaries from May 1, 1885, to Dec. 1, 1885.

W. H. BEACH, *Sec.*, Cortland, N. Y.

☞ The next meeting of the Maine Bee-Keepers' Association will be held at Skowhegan, Me., on Jan. 19, 20 and 21, 1886. The Maine Central R. R. will sell tickets at one fare for the round trip. The Grand Trunk R. R. will sell tickets at the same rate to Lewiston, Me., to all who attend the meeting. Bee-keepers everywhere are cordially invited to be present. WM. HOYT, *Sec.*

☞ The Northern Ohio Bee-Keepers' Association will hold a meeting in the Baptist Hall, in Wellington, O., on Friday, Jan. 8, 1886. A special effort will be made to secure a full attendance. H. R. BOARDMAN, *Sec.*

☞ The annual meeting of the Northwestern Illinois and Southwestern Wisconsin Bee-Keepers' Association will be held in Freeport, Ills., on Tuesday, Jan. 19, 1886.

JONATHAN STEWART, *Sec.*

☞ The annual meeting of the Champlain Valley Bee-Keepers' Association will be held in Middlebury, Vt., on Jan. 21, 1886.

R. H. HOLMES, *Sec.*

☞ The Northeastern Ohio and Northwestern Pennsylvania Bee-Keepers' Association will hold its seventh annual convention at Meadville, Pa., on Wednesday and Thursday, Jan. 20 and 21, 1886. C. H. COON, *Sec.*

Honey as Food and Medicine.

☞ To create Honey Markets in every village, town and city, wide-awake honey producers should get the Leaflets "Why Eat Honey" (only 50 cents per 100), or else the pamphlets on "Honey as Food and Medicine," and scatter them plentifully, and the result will be a DEMAND for all of their crops at remunerative prices. "Honey as Food and Medicine" are sold at the following prices:

Single copy, **5** cts.; per doz., **40** cts.; per hundred, **$2.50**. Five hundred will be sent postpaid for **$10.00**; or **1,000** for **$15,00**. On orders of **100** or more, we will print, if desired, on the cover-page, "Presented by," etc. (giving the name and address of the bee-keeper who scatters them).

To give away a copy of "Honey as Food and Medicine" to every one who buys a package of honey, will sell almost any quantity of it.

Honey and Beeswax Market.

Office of the AMERICAN BEE JOURNAL,
Monday, 10 a. m., Dec. 28, 1885.

The following are the latest quotations for honey and beeswax received up to this hour:

CHICAGO.

HONEY.—The market is without special change since last quotations. White comb honey in one-pound sections brings 15@16c. A little fancy sells at 17c. in a small way. Dark comb honey sell slowly. Nearly all of the white comb honey comes from the East. Extracted is held firmly at from 6@8c.

BEESWAX.—25c.

R. A. BURNETT, 161 South Water St.

NEW YORK.

HONEY.—The market for comb honey is very flat and inactive, which we attribute to the continued warm weather, and prices are ruling correspondingly. We quote as follows: Fancy white comb in 1-lb. paper cartons, 14@15c.; the same in 1-lb. glassed or unglassed sections, 13@14c.; the same in 2-lb. glassed sections, 10½@12c., and in unglassed 2-lbs., 12@13c. Buckwheat honey in 2-lb. sections, 9@10c.; in 1-lb. sections, 11@12c. Extracted—white clover, 6½@8c.; buckwheat, 5½@6½c.

BEESWAX.—Prime yellow, 25@28c.

McCAUL & HILDRETH BROS., 34 Hudson St.

ST. LOUIS.

HONEY.—The market is quiet and the demand light just now. We quote prices as follows:—Choice comb honey, 10@12c. Extracted, in barrels, 4½@5c. Extra fancy of bright color and in 1-lb. packages, ¼ advance on above prices.

D. G. TUTT & CO., Commercial St.

CINCINNATI.

HONEY.—There is a very slow demand from manufacturers, for extracted honey, with a large supply on the market, while the demand is very good for clover honey in square glass jars. Prices for all qualities are low and range from 4@8c. a lb. Supply and demand is fair for choice comb honey in small sections, which brings 12@15c. per lb.

BEESWAX.—Good yellow is in good demand, and arrivals are fair, at 20@22c. per lb.

C. F. MUTH & SON, Freeman & Central Ave.

CLEVELAND.

HONEY.—The market is not quite as active as it has been, owing, no doubt, to many attractions of the Holiday Season. Best white, 1-lb. sections sell at 15c., and 2-lbs. for 13@14c., but there is not so much sale for the latter. Second grade honey is dull at 12@13c. Old white, 10@12c. Extracted, 7@8c. per lb.

BEESWAX.—Very scarce at 22@25c.

A. C. KENDEL, 115 Ontario Street.

KANSAS CITY.

HONEY.—The demand for honey begins to sag under the present comparatively high prices, and recent warm weather, though choice 1-lb. sections are still scarce and pretty well taken up at 16@17c. We think, however, that the top is reached and any change will be lower prices. Two-lb. sections are selling at 12½@15c. Extracted, dark, 4@6 cts.; white, 7@8c.

BEESWAX.—22½@25c.

CLEMONS, CLOON & CO., cor. 4th & Walnut.

BOSTON.

HONEY.—It is selling very well but prices are very low, and we are often obliged to shade our prices in order to make rates. We quote comb honey in 1-lb. sections at 14@16c., and 2-lb. sections at 12@14c. Extracted, 6@8c.

BEESWAX.—30 cts. per lb.

BLAKE & RIPLEY, 57 Chatham Street.

SAN FRANCISCO.

HONEY.—Choice comb honey is in light supply and is bringing firm figures. There is a fair movement in best qualities of extracted at steady rates. We quote as follows: White to extra white comb, 10@12½c.; amber, 7@8c. Extracted, white liquid, 5¼@5½c.; light amber colored, 4½@4¾c.; amber and candied, 4½c.; dark and candied, 4@4¼c.

BEESWAX.—Quotable at 23@25c., wholesale.

O. B. SMITH & CO., 423 Front Street.

Bee-Keepers' Badges at Fairs.

We have some **ELEGANT RIBBON BADGES**, having a rosette and gold Bee, for bee-keepers' use at Fairs, Conventions, etc. Price 50 cents each, by mail, postpaid.

THOMAS G. NEWMAN & SON,
923 & 925 West Madison St., CHICAGO, ILL.

GENERAL INDEX TO VOLUME XXI.

GENERAL INDEX TO SUBJECTS.

A bee in a shaving saloon......... 555
A discontented bee......... 120
A drone's plea for his sisters..... 581
After-swarms 120, 324, 438, 676
Age of brood & extracting combs 596
Age of queen before laying....... 580
Age when bees begin to work.... 168
Albinos and Italians......... 788
Alleged depredations of bees..... 428
Alum in winter stores......... 284
Amalgamation of bees......... 244
Among the bees in spring......... 421
Among the bees in summer.. 502, 553
Amount of honey gathered by a bee......... 775
Amount of wax in comb......... 708
Amusing incident......... 419
Apiarian "bash"......... 166
Apiary burned......... 90, 746, 787
Apicultural apprentices......... 293
Aplicultural discussions, etc..488, 599......... 615
Apicultural experiments 197,261, 347, 376, 499......... 505
Apicultural humbug and fraud... 103
Apicultural imposition......... 198
Apicultural jurisprudence......... 570
Apicultural nomenclature......... 39
Apicultural notes 40, 440, 471, 618, 697......... 776
Apiculture......... 389
Apiculture as a business 86, 251, 264......... 807
Apis Americana......... 490
Apis dorsata......... 310, 323, 345
Apparently dead bees......... 232
Are bees taxable?......... 88, 169
Are drones commoners?......... 501
Are patents necessary?......... 53
Are workers abortions?......... 563
Argument *vs.* invective......... 316
Arrangement of hives.........216, 826
Assertion is not argument 363

Backward spring......... 307
"Balling" queens......... 581, 596
Basswood bloom......... 708, 747
Beating tin-pails and brass-kettles......... 475
Beautiful spring-time......... 325
Bee and honey classification 355, 362
Bee-cellars......... 20, 90, 347, 586
Bee-diarrhea. 23, 36, 37, 85, 87, 100, 105, 117, 118, 123, 172, 182, 184, 203, 230, 246, 252, 292, 325, 373, 378, 393, 426, 452, 488, 517, 519......... 551
Bee-enclosure......... 726
Bee-farm near Philadelphia, Pa.. 582
Bee-hive factory burned......... 157
Bee-houses......... 20, 584, 629
Bee-keepers at the fairs......... 554
Bee-keepers in Germany......... 323
Bee-keepers' reference book..... 727
Bee-keeper's staff......... 295, 459
Bee-keeping classes......... 391
Bee-keeping for women...... 315, 473

BEE-KEEPING—
- In Alabama......... 539
  - California......... 262, 821
  - Canada......... 131
  - Connecticut......... 821
  - Cuba......... 183
  - Delaware......... 789
  - England......... 284
  - Florida......... 683, 778
  - Iowa......... 821
  - Kentucky......... 442
  - Maine......... 504, 697
  - Manitoba......... 727
  - Mississippi......... 326
  - Ontario......... 789
  - Pennsylvania......... 617, 789
  - Quebec......... 789
  - South Australia......... 741
  - Sweden......... 777
  - Texas......... 71, 347, 780
  - Tunis......... 259
  - Utah......... 316
  - Vermont......... 789
  - Virginia......... 567
  - West Virginia......... 475
  - Yucatan......... 88

Bee-lore mixed and muddled 73
Bee-passages......... 212, 283, 298, 676
Bee-poison......... 40, 485, 519
Bee-yards......... 283
Bees affected with moisture...... 260
Bees and buckwheat......... 411, 492
Bees and clover......... 217, 535, 455
Bees and drouth......... 403
Bees and farm-stock.... 380, 475, 583
Bees and flowers.... 227, 581, 712, 723
Bees and fruit, etc....... 323, 330, 731
Bees and glucose......... 601
Bees and grapes 412, 611, 652, 707, 758......... 771
Bees and horticulture......... 803
Bees as storm-warners......... 355
Bees at work on the linden....... 421
Bees beneficial to crops......... 488
Bees benefit farmers......... 444
Bees breeding 117, 180, 187, 307
Bees for defense......... 723
Bees harmless as flies......... 475
Bees in a church......... 42
Bees killing a queen......... 724
Bees leaving the hives.. 300, 410, 420, 636......... 661
Bees lying out......... 508, 540
Bees moving in the cluster... 324, 361
Bees of South America......... 729
Bees of the Orient......... 151
Bees packed in cellars......... 803
Bees starving in early spring 260
Bee-stings. 444, 472, 499, 604, 635, 668
Bee-suits......... 651, 675
Bees under the snow 357, 395, 396, 409
Beeswax. 153, 180, 298, 434, 475, 531, 563......... 681
Bees working in the sections 567, 613
Best hive......... 91
Bichloride of mercury......... 524
Black bees......... 373, 615
Black drones and Italian queens. 299
Black, shiny bees......... 564, 682
Boiled honey for winter stores.... 523
Bottom-board fasteners......... 57
Brood and young bees dying...... 660
Brood in the sections......... 436
Building brace-combs......... 548
Building up colonies......... 329, 716
Bumble bees.........323, 459
Bureau of Animal Industry 409
Burning words......... 371

Can bees commit trespass?....... 371
Candy for bees in winter......... 788
California honey crop......... 403
Care of comb honey......... 451
Carniolan bees......... 121
Caucasian bees......... 331
Causes of loss in winter......... 359
Cause of sour honey......... 692
Cell cappings......... 581
Chaff hives......... 756, 772
Changing location of an apiary... 820
Chilled brood......... 298
Chloroformed bees......... 731
Cider and bees......... 267, 283, 644
Cleanliness of bees......... 515
Cleansing spotted combs......... 299
Clipping the queen's wing.... 164, 246
Comb foundation 54, 154, 167, 168, 260, 309, 444......... 806
Comb foundation in brood-nest.. 122......... 551
Comb honey *vs.* extracted honey 505, 708......... 759
Comb honey without separators. 164
Combs for extracted honey....... 180
Combs of honey for next season. 692
Consumption and sale of honey.. 55
Consumption of honey by bees... 564
Contraction method 437, 488, 536, 551, 568......... 709

CONVENTIONS—
- California......... 406
- Cedar Valley, Iowa....... 89, 201
- Central Illinois......... 312, 758
- Central Michigan......... 361
- Champlain Valley, Vt....... 39
- Des Moines Co., Iowa... 294, 681
- Eastern Indiana......... 599
- E. Iowa and W. Illinois...... 185
- Italian......... 715
- Haldimand, Ont..... 24, 201, 373
- Indiana......... 86
- Johnson Co., Ind......... 407
- Iowa......... 647
- Kentucky......... 646, 649
- Linwood, Wis......... 309
- Manitoba......... 682
- Marshall Co., Iowa...... 198, 296
- Michigan......... 6
- Nebraska......... 106, 812
- Nemaha Co., Nebr......... 170
- New Jersey and Eastern.... 341
- North American... 124, 680, 723, 728, 771, 789, 804,.... 821
- Northeastern of N. Y... 182, 357
- Northeastern Michigan. ... 137
- N. E. Ohio and N. W. Pa.... 74
- Northern Ohio......... 345
- North Middlesex, Ont....... 218
- Northwestern of Chicago... 115, 172, 188......... 579
- Ohio......... 615
- Ontario, Canada.... 597, 618, 633
- Patsalaga, Ala......... 619
- Piscataquis, Maine......... 710
- Progressive of Illinois. 329, 683
- Southeastern Michigan..... 22
- Southern Illinois......... 662
- Southern Ohio......... 346
- Southern Wisconsin.... 168, 345
- St. Joseph, Mo......... 632
- Syrian......... 551
- Texas......... 423
- Wabash Co., Ind 278, 714
- Western Maine......... 630
- Western Missouri....... 311, 710
- Western N. Y. and N. Pa.... 315
- Wisconsin......... 135

Continuous passage-ways......... 167
Controlling increase......... 101
Controlling the honey-bee......... 683
Corn......... 339
Correct bee-spaces......... 628
Correctness in reporting......... 582
Counteracting false statements.. 281
Cuban honey......... 43
Cultivation of the clovers......... 51
Cyprian and Italian bees......... 75
Cyprians, Syrians, etc......... 428

Damp cellars for bees......... 252
Dampness in bee-repositories 68, 109......... 108
Dead bees on the snow......... 99

DEATH OF—
- R. M. Argo......... 147
- Wm. W. Cary......... 104, 773
- D. S. Given......... 57
- Henry Hooth......... 355
- Rev. H. R. Peel......... 403
- Prof. Von Siebold......... 307
- Wm. Williamson......... 115

Deep frames......... 364
Depopulated hives.. 268, 300, 364, 419......... 428
Destroying plant-lice......... 141
Did bee-keeping become a lost art?......... 779
Disastrous results of the winter. 389
Diseased bees......... 103
Discoveries in cross-fertilization. 487
Distribution of the sense of taste 67
Do bees ever freeze?......... 69, 188
Do bees steal eggs?......... 537, 572
Does the queen rule the colony?. 538
Doolittle's report for 1885......... 709
Do queens eat pollen?......... 516
Double-walled hives......... 444
Dragging out young bees......... 628
Drawing out foundation......... 484
"Driving bees"......... 491, 492
Drones......... 332, 532, 660 684, 716
Drones and drone-comb......... 436
Drones and laying workers....... 629
Drones and worker eggs......... 613
Drone-traps. 52, 105, 165, 214, 262, 278
Duty on beeswax......... 72

Early queen......... 204
Early swarms......... 388
Economical brood-chambers..... 698
"Eden" for bee-keepers......... 268
Egyptian bee-dance......... 355
Eight or ten frame hives 484, 486, 535, 549, 585, 630......... 666
Electric entrance regulator...... 614
Elegant bee......... 371
Elements of royal jelly....... 756, 796
Elements of success......... 71
Emblem of Napoleon III......... 339
Enameled-cloth covering.... 356, 604

ENEMIES OF BEES—
- Ants......... 156, 203, 235, 483, 643
- Bee-killer......... 364
- Bee-moth......... 52, 454, 499
- Lace-winged insect......... 395
- Toads......... 643

Enthusiastic welcome......... 19
Excellence or cheapness—which? 804
Expelling water from sweets 100, 116
Experience in keeping bees. 136, 522, 731......... 827
Explicitness in descriptions...... 634
Extracted honey 453, 455, 547, 554, 603, 715, 740, 793......... 822

Fall and spring weight........ 116, 244
Fall work......... 600
Farmer bee-keepers......... 779
Fastening combs in frames...... 244
Fastening down hives......... 554
Fastening foundation. 72, 90, 107, 140
Father M. Quinby......... 442
Feeding back extracted honey .. 309, 676......... 747
Feeding bees.. 4, 68, 116, 171, 172, 186, 507, 540, 572, 588, 648...... 740
Feeding honey from depopulated hives......... 460
Fertilization of flowers. 376, 677, 707
Fertilization of queens.. 25, 154, 281, 436, 491, 564, 565, 612. 740
Fight between bees and hornets. 435
Finding queens......... 520
Fine work......... 323
Finishing partly filled sections.. 572
Flat-bottom foundation......... 484
Flavor of extracted honey....... 516
Floating apiaries......... 121
Florida honey......... 499
Foolish jealousy......... 387
Foul brood 37, 124, 155, 200, 245, 283, 291, 297, 314, 327......... 771
Frames crosswise to the entrance 228
Frost-work on the window....... 99
Funny......... 803

Gall-mites on plum-trees......... 566
Getting bees into the boxes...... 438
Getting bees out of the sections.. 42
Getting drone-eggs......... 468
Glad autumn days......... 628
Glucose......... 442, 483, 530
Golden jubilee of Dzierzon.. 707, 744
Grasshoppers and bees......... 731
Great country for bees......... 540
Greiner Bros. report for 1884-85. 777
Grizzly honey-eater of California 487

Half-pound packages of bees.... 394
Handling bees......... 105
Hanging-frame hive......... 440
Hard nut to crack......... 60
Hard-wood barrels......... 451
Harmonizing theories......... 182
Have bees a language?......... 694
Have bees the sense of hearing? 535......... 729
Hermaphrodite bee......... 275
Hibernation. 21, 23, 24, 53, 55, 58, 84, 85, 118, 186, 204, 219, 275, 307, 361, 408, 757......... 762
Hibernation or quietude—which? 233
Hints to beginners......... 313, 427
Historical......... 355
Hive door-yards......... 169, 250
Hive entrances in winter......... 820
Hives and separators......... 220
Hives for extracting purposes.... 708
Hives, frames and feeding........ 186
Hiving bees 459, 468, 474, 506, 521, 652

HONEY AND BEE-SHOWS—
- California......... 52
- London, Eng......... 339
- London, Ont......... 632
- Michigan......... 635
- Ohio......... 584
- St. Joseph, Mo......... 600
- West Virginia......... 603

Honey and comb to order..... 83, 422
Honey and wool......... 491
Honey-ants......... 726
Honey-bees as fertilizers......... 438
Honey-boxes......... 167
Honey-cases......... 604
Honey crop 163, 211, 326, 586, 663, 665
Honey gathered from corn...... 634
Honey-dew 123, 138, 218, 235, 248, 266, 283, 515......... 636
Hon. Edwin Willetts' "Address of Welcome"......... 790
Honey in the days of yore 419
Honey markets 200, 500, 584, 823
Honey oozing from the combs... 260......... 291
Honey-plants.. 186, 275, 299, 364, 693

HONEY PRODUCTION OF
- North Carolina......... 309
- Tennessee......... 311
- Virginia......... 312

Honey prospects......... 355
Honey-racks, sections, etc........ 184
Honey-samples wanted......... 747
Honey secretion......... 25
Honey-wine......... 627
Horticulturists *vs* apiculturists.. 519
How do bee-larvæ eat?...... 340, 356
How does he know?......... 123
How it is "over there"......... 51
How to build a honey-house...... 180
Human enemies of bees......... 566
Hum in the hives......... 659
Hybrid bees......... 60, 684
Hybrid bees *vs.* Italians...... 118, 724

Ice-house for wintering bees..... 253
Identifying bees......... 533
Ignorance about bees... 195, 552, 755
Imperfections of Nature......... 266
Important subjects at conventions521
Imported queens—by mail........ 636
Imported *vs.* home-bred queens.. 505
Improvements in bee-culture.... 587
Increasing number of colonies 148, 248, 456, 676......... 743
Industry of bees......... 419
In memoriam—Wm. W. Cary..... 773
Insect wax of China......... 787.
International Bee-Keepers' Congress....... 35, 59, 83, 131, 147, 149
Introducing queens.. 21, 181, 439, 451, 453, 472, 504, 506, 520, 549, 572, 602, 604, 698......... 732
Introduction......... 4.
Irascible bees......... 586
Is bee-bread always pollen?. 426, 459
Is bee-keeping respectable?...... 346
Italian and black bees......... 580
Italian bees......... 632
Italianizing colonies......... 404, 586
Italians *vs.* brown and black bees 171
Italians *vs.* foul brood......... 58

January thoughts......... 37
Jones' winter report......... 489
Judging honey exhibits......... 725

Keeping a book account......... 51
Keeping bees in family room 628, 665
Keeping bees for profit......... 729
Keeping queens outside of hives. 501
Killing off drones......... 548
Knowing it all......... 581

Langstroth bee-spaces 10, 70
Langstroth frame.................. 44
Langstroth hives.................. 42
Large honey-yields................ 725
Large wasps....................... 508
Law against keeping bees 346, 380, 467
Laying capacity of a good queen 308
Lengthening the swarming impulse.................... 820
Lesson in apiculture.............. 456
Little "busy bees"................ 297
Locating an apiary................ 116
Locust honey...................... 826
Losing bees very fast............. 645
Losing queens by death. 580

Making honey......... 475
Management of an apiary 68, 101, 103, 405, 491, 601, 682, 715...... 761
Marketing honey 9, 21, 73, 151, 152, 195, 231, 259, 331, 375, 502, 506, 531, 600, 651, 731, 755, 761, 776, 779.............................. 793
Mass convention................... 124
Mental life of the bee............ 440
Metal rabbets and corners......... 228
Methods and theories.............. 76
Migratory bee-keeping............. 643
Milk and honey 746
Misrepresentations...... 339, 435, 664
Mistakes about bee-keeping. 438, 554
Moldy brood-combs................. 372
Moving bees 104, 202, 292, 332, 345, 396, 443, 762. 788

Names that mislead................ 99
National bee-keepers' union 371, 372, 377, 378, 380, 387, 388, 394, 395, 404, 411, 435, 444. 451, 454, 457, 467, 475, 476, 483, 486, 502, 508, 515, 523, 524, 533, 555, 569, 572, 683............................ 791
Necrology of bee-keepers.......... 824
New and old year.................. 3
New phenomenon.................... 196
New Year's greeting............... 3
Northern Michigan honey........... 540
Norwegian bee-book................ 371
Not the way to argue.............. 216
Not working for fun............... 307
Nuclei—making of............ 277, 332
Number of colonies........... 76, 107
Nursery and queen-cage............ 602

Observations upon drones.......... 614
Odors and sweets.................. 247
Old and new bee-hives............. 260
Old and young bees................ 248
Old bees for winter............... 684
Orange and magnolia honey......... 316
Over-production..... 72, 169, 231, 261
Over-stocking a locality.......... 330

Packing bees... 323, 380, 539, 731, 758
Paper boxes for honey....... 531, 645
Passage-ways and bee-spaces.... 199
Paste for honey-labels, etc 483
Peaceful habits of the bee 453
Pea-flour 43
Pecten or comb of the bee......... 667
Petrified honey 755
Phenol and foul brood............. 19
Planting for honey...... 218, 660, 692
Plant-lice........................ 141
Poisoning bees............... 491, 540
Poisonous honey 455, 588, 599, 710, 745

PASTURAGE FOR BEES—153, 339, 373, 794........................ 825
  Acacia 339
  Alfalfa.................... 328, 691
  Alsike clover............. 51, 443
  Basswood. 492
  Blue-vervain................... 732
  Buckwheat 443, 467
  Button-ball............. 492, 523,
  California poppy.............. 611
  Cone-flower 540
  Dodder 24
  Hercules' club 668
  Horse-mint..................... 76
  Lucerne 51
  Maryland sensitive-plant... 682
  Mignonette 483
  Phacelia....................... 595
  Pleurisy-root.................. 42
  Poison oak..................... 534
  Red clover..................... 51
  Smart-weed 619
  Spider-plant................... 474
  Sweet clover........ 459, 472, 491
  Trefoil........................ 51
  Viper's-bugloss 27
  Virginia creeper............... 474
  White clover.......... 51, 428, 499
  Whitewood 492
  Wild gooseberries and currant... 392
Pollen...... 53, 58, 60, 88, 187, 202, 519
Pollen and larval bees 134, 232, 299, 357
Pollen and newly-hatched bees.. 136
Pollen or moisture?............... 504
Pollen theory 55, 90, 169, 170, 249, 280, 362, 470, 503................ 777
Position of the apiary and bloom 677
Poultry and bees......... 499, 554, 760
Preparing bees for winter... 294, 427, 571, 579, 633, 644... 727
Pres. L. C. Root's annual address 791
Prevention of honey-granulation 293
Prevention of robbing....... 276, 332
Production of comb honey.. 184, 196, 276, 359, 647................ 792
Production of honey............... 458
Putting bees in cellars........ 739, 780
Putting on sections............... 388

Queen-bee from Mt. Lebanon.... 428
Queen-cells....................... 540
Queen-excluders............. 156, 262
Queen going to another hive..... 492
Queenless colonies. 212, 291, 440, 726
Queen-nurseries....... ...... 395, 419
Queens beginning to lay 724
Queen whose eggs do not hatch.. 420
Question-box...................... 825
Quite a haul...................... 403

Races of bees................. 697, 810
Railroad classification and rates. 362
Rat-proof honey-house...... 340, 356
Rattle-snakes and honey......... 691
Rearing queens..... 452, 468, 618, 677
Rearing young bees for winter... 652
Registering colonies............ 22, 69
Regularity........................ 539
Relation of bees to plants... 371, 374
Removing pollen from combs 340, 380
Rendering conventions profitable 293
Replacing queens........ 492, 612, 661
Reputation for good honey....... 645
Reversible supers................. 167

Reports of the season 11, 12, 21, 27, 28, 29, 42, 43, 44, 60, 76, 89, 90, 91, 92, 107, 108, 119, 124, 133, 156, 169, 171, 172, 184, 188, 202, 203, 204, 215, 219, 220, 221, 235, 236, 251, 252, 267, 268, 282, 283, 284, 300, 315, 316, 332, 347, 348, 360, 364, 378, 380, 395, 396, 408, 411, 412, 428, 443, 444, 454, 459, 460, 470, 475, 476. 491, 492, 507, 508, 518, 523, 524, 533, 539, 540, 555, 565, 572, 588, 604, 614, 619, 620, 634, 635, 636, 646, 652, 667, 668, 684, 699, 700, 716, 762, 763, 779, 780, 796, 826................. 827
Reversible frames.. 8, 57, 88, 102, 165, 203, 204, 250, 252........... 539
Reversing combs.............. 278, 808
Review of current literature..... 693
Ridicule is not argument.......... 279
Rights and patents 247
Ripening honey.................... 164
Robber bees 91, 443, 507, 508, 632, 725
Roses among the thorns............ 157

Sale of bees in Arkansas.......... 307
Satisfaction guaranteed.......... 3
Seasonable hints.... 379, 394, 664, 707
Second-swarms................ 540, 651
Sense of direction in bees, etc... 643
Secretion of wax 652 756
Sections and section-cases........ 199
Sections for comb honey..... 150, 250
Sections parallel with frames.... 84
Sections partly filled with comb.. 84
Sections to hold one-pound....... 756
Sections without separators...... 697
Shade for hives 228, 308, 396, 515, 760
Sheep and bees 379, 410, 459, 475, 476........................... . 553
Sheep and gad-flies.......... 443, 523
Sheep-bees lawsuit. 389, 405, 425, 441, 467, 491, 659, 691, 699, 713, 739
Shipping bees................ 316, 698
Shipping-cases............... 172, 250
Shipping honey... 699
Side-storing *vs.* top-storing..... . 697
"Singing" queen................... 548
Size of brood-frames.............. 420
Size of entrance in winter........ 772
Size of hives, etc................ 780
Small hives *vs.* large hives... 631, 662 693, 697, 709, 714, 728, 762, 774
Some queries...................... 539
Sour honey, larval bees, etc...... 357
Space below frames 668
Speak a word...................... 507
Spiders and empty combs.......... 469
Spraying fruit trees.............. 100
Spring work................... 291
Starters in brood-frames.......... 357
Starvation and diarrhea..... 171, 229
Statistics of honey crop. 403, 680, 810
Stimulating colonies 692
Storing empty combs 235, 340, 356, 469
Storing honey........ 70, 139, 472, 521
Strange notions of bees........... 524
Straw bee-hives................... 762
Strength of insects............... 393
Sub-earth ventilation............. 628
Sugar syrup............... 299, 425, 426
Superseding queens.......... 452, 501
Swarming 149, 292, 308, 329, 362, 427, 439, 507, 585, 599, 612, 666, 716..............................743

Supervision of labor.............. 100
Susie's swarm of bees............. 372
Syrian bees 313, 488, 568, 635
Syrian or Holy Land bees?....... 523
Syrio-Albino bees................. 539
Systematic work in the apiary... 451

Tariff on honey.......... 35
Teaching apiculture in schools... 371
Temperature of bees 84, 181, 326, 587, 712... 758
The bee at its best........... 422
Throwing dirt..................... 387
Tiering up hives in the cellar.... 644
Tin rests for frames.............. 156
Tin roofs for hives............... 747
To bees in winter quarters........ 709
Top ventilation................... 777
To Wisconsin bee-keepers........ 76
Transferring bees.. 228, 251, 330, 348, 364, 372, 380, 393, 425, 443, 584
Transverse passages in hives..... 280
Two queens in one hive........... 708

Uneasy bees....................... 4, 19
Uniting colonies............. 611, 612
Using combs containing pollen.. 596
Using empty combs........... 388, 472

Value of queens, etc 664
Variations in honey seasons. 429
Varieties of bees.. .... 132, 572
Vegetable cellars for bees........ 68
Ventilation..... 252, 299, 326. 712, 774
Virgin queens and drone-eggs.... 292
Virgin queens and laying workers 740
Visits of insects to flowers........ 377
Visits to apiarists... 219, 426, 537, 550, 666.... 667

Wax-extractors.................... 396
Waxing kegs and barrels.... 516, 583
Weather 371, 730
What ails the bees? 140, 196, 298, 644
What bees do in winter 763
What caused the trouble?......... 140
What killed the bees?............. 332
What the times demand........... 119
Where bees first deposit honey.. 100
Which way to face hives? 26, 54, 139, 250.......................... 295
Wide frames and sections?........ 284
Wide frames or cases?............. 276
Wild bees in Oregon............... 323
Willow bark-lice.................. 604
Wind-breaks for apiaries.... 298, 471, 503, 552, 660, 691,............761
Wintering bees...9, 24, 42, 55, 102, 104, 105, 124, 135, 167, 170, 171, 198, 219, 231, 233, 234, 248, 251, 264, 265, 275, 284, 295, 307, 316, 343, 348, 391, 392, 396, 406, 409, 424, 442, 533, 567, 601, 602, 629, 634. 650, 663, 664, 667, 682, 695, 699, 725, 726, 745, 757, 809, 812, 826
Wintering problem 5. 213, 314, 408
Wintering queens in nuclei....... 724
Winter repository for bees........ 532
Wired frames 296
Woman's view of bee-keeping.... 778
Worker larvæ 123
Working against nature 25, 101
Would-be critic................... 148
Would-be discoverer 39

Young bees as commoners........ 697

INDEX TO CORRESPONDENTS.

Abbott, E. T. 600, 632.
Abbott, L. F., 422.
Ackerman, H. U. 57, 250, 281.
Addenbrooke, W., 796.
Addition, F. O., 504.
Ahlers, F. J., 523.
Aikin, R. C., 299, 443.
A Lanarkshire bee-keeper, 568.
Aldrich, A. T., 665.
Allen, Grant, 67.
Allen, Dr. N. P., 268.
Allen, Ransom, 204, 411.
Alley, Henry, 27, 43, 105, 108, 215, 219, 364, 444, 505, 520, 566, 588, 619.
Alves, G. M.. 102.
Amiel, Mouch, 567.
Anderson, T. M., 428.
Anderson, Wm., 188, 235, 300, 380, 411, 524.
André, J. H., 42, 107, 171, 204, 220, 283, 295, 330, 372, 395, 428, 440, 472, 491, 507, 533, 651, 663, 684.
Apiarist, 540.
Ashby, G. W., 395, 396, 443, 492.
Aspinwall, Jno., 755.
Austin, H. C., 211.

Bacon, G., 732.
Bailey, M., 316.
Bair, W. S., 252.
Baker, Dr. J. R., 42.
Balch, W. H., 634, 659.
Baldwin, B. T., 395, 443, 365.
Baldwin, P., 712.
Bale, J. C., 172, 284.
Ball, Miss J. M., 411.
Ball, J. Raymond, 43, 316.
Ballentine, Rev. W., 182.
Balmer, Jno. A., 474, 476.
Barber, Ira, 235, 316, 422, 809.
Barnes. Wm. M., 454.
Barrows, O. B., 124, 539, 780.
Bates, Henry, 54.
Baxter, Mrs. E. J., 380.
Bayard, J. W., 91, 233, 311, 391.
Bayles, I. N., 156, 299.
Beath, Jos., 204.
Bechly, Fred, 283, 635.
Bedford, Rev. R. C., 284.
Beech. G. A., 171.
B. F. W., 652.
Behrens, W. J., 677.
Beitel, C. G., 537, 617.
Benedict. F. C., 359.
Bennett, A. D. '89, 201, 204.
Benton, F., 151, 259, 551.
Berry, M. H., 235.
Besse, Dr. H., 459.
Biggers, C. T., 348.
Billing, Peter, 268, 635.
Bingham, T. F., 539, 747.
Bishop, Geo. M., 555.
Bitzer, Wm 459.
Blake, Prof. C. C., 730.
Bledsoe, O. F., 326, 618.
Bliss, W. W., 771.
Boardman, H. R., 235, 345, 491.
Bohn, Gustav, 611.
Bolling, W., 107.
Boylston, S. C., 202, 362.
Bradish, Chas. W., 300.
Bray, Moses, 491.
Bridgman, C. F., 727.
Brillhart, S. B., 76.
Brothers, Dan., 156.
Brown, Chas., 604.
Brown, J. H., 11.
Brown, L M., 619.
Brown, Mrs. M. R., 268.
Brown, W. B., 396.
Buchanan, J. A., 188, 248.
Buchanan, J. W. & Bro., 763.
Bull, Joshua, 166, 295, 363, 539, 727, 762.
Bull, T. S., 780.
Bunker, A., 310, 345.
Burnet, H. G., 188, 683.
Burrill, F. A., 133.
Burrill, T. J., 27, 37, 492, 604, 619, 668.

Cady, J. E., 133.
Calvin, R. A., 235.
Camm, Wm., 313.
Camp. C. A., 615.
Campbell, E. C., 24, 201, 273.
Carr, W. M., 299.
Carroll, B. F., 71, 107.
Cates, H. M., 796.
Cauthen, W. S., 188.
Chaddock, Mahala B., 394, 682.
Chandler, Lyman, 763.
Chapel, W. M., 44, 252, 535.
Chapman, C. H., 12.
Cheney, A. B., 27.
Cheshire, Frank R., 298, 374.
Church, C. J., 12.
Churchill, E. P., 427.
Clark, H., 27, 188.
Clark, J. M., 761.
Clark, J. W., 492.
Clark, Z. A , 107, 172.
Clarke, J. W., 552.
Clarke, Rev. W. F., 21, 53, 91, 103, 120, 148, 216, 279, 326, 360, 489, 491, 693, 709, 712, 757.
Clickenger, Earle, 60, 584.
Clute, Rev. O., 296, 330, 345, 521, 567.
Coggshall, W. L., 236.
Coggswell, C. H., 247.
Colburn, E. P., 364.
Comstock, J. L., 236.
Conner, Frank, 584.
Connley, J. T., 235, 442, 650, 652.
Cook, Prof. A. J., 40, 76, 124, 154. 221, 275, 291, 299, 307, 395, 425, 443, 508, 523, 552, 566, 572, 695, 710, 732.
Coombs, E. M., 444.
Coon, C. H., 75.
Corbett, Robert, 219, 393, 443, 492, 521.
Corcoran, Thos. J., 572.
Corneil, S., 55, 184.
Crane, E. C., 235.
Crandall, C. M., 312.
Crawford, Jno., 380.
Cripe, Henry, 508, 727.
Crockett, Mrs. L. M., 438, 473.
Cronkleton, Ezra J., 332.
Crosby, A., 235.
Curran, Wm., 826.
Cutting, H. D., 124, 680, 725, 728.

Dadant, Chas., 154, 662, 744, 774.
Dadant, Chas. & Son, 72, 165, 221, 278, 298, 387, 759.
Dadant, C. P., 535, 585, 666, 728, 793, 822.
Dalziel, Dr. Jas., 19.
Daniels. S., 103, 364.
Darby, M. E., 236, 411.
Darling, Isaac, 396.
Davenport. B. T., 411.
Davis, C. M., 91, 170.
Davis, Hilas D., 234.
Davis, Nathan, 267.
Davis, W. J , 29, 55, 188, 230, 332, 348.
Dawson, L., 716.
Dayton, C. W., 23, 118, 171, 184, 292, 504, 583, 698, 725.
Decker & Angell, 372.
Delffs, Arnold, 442, 506.
Demaree, G. W., 25, 100, 120, 149, 298, 377, 646.
Detwiler, J. Y., 220, 330.
Dibbern, C. H., 218, 323, 372, 379, 380, 396, 451, 460, 506, 508, 563, 600, 664, 707.
Dickason, T. B., 12.
Diehl, L. J., 43, 188.
D. M. S., 3.
Dodge, U. E., 121.
Donhoff, Dr., 440.
Doolittle, G. M., 5, 28, 69, 134, 181, 197, 204, 245 251, 260, 277, 325, 357 405, 421, 453, 459, 502 553, 555, 581, 645, 680 709, 716, 741, 775, 792.

Dorr, H. R., 572.
Doudna, J. M., 284, 316.
Dougherty, F. L., 67, 87, 243, 291, 307, 438, 633.
Douglass, W. S., 684.
Downs, Robert, 476.
Downs, W. H., 443.
Draper, I. A., 220.
Dresser, E. L. 202.
Duffy, Geo., 492.
Dunbar, G. W., 284.
Duncan, A. J., 539.
Dunn, John, 316, 428.
D. W. F., 652.
Dyke, Wm., 219, 486.
Dzierzon, Dr., 586.

Eaglesfield, E. C., 488.
Eastwood, L., 411.
Eckman, J. W., 188, 395.
Edwards, A. L., 251.
Elder, E. V., 316.
Elder, S. F. & Bro., 540.
Elwood, W. R., Sr., 91, 203, 411.
Emison, Jno. A., 347, 614.
Emmons, Jacob, 460.
Emrick, L., 60.
Enas, J. D., 262, 636, 776.
England, P. J., 332, 372.

Farris, W. A., 332.
Fassett, A. C., 137.
Feasel, I., 283.
Feathers, Harvey, 428.
Fish, W. G., 406, 554, 588.
Fisher, W., 171.
Fisk, A. W., 133.
Flanagan & Illinski, 787.
Fletcher, A. P., 27, 198, 203.
Follett, Chas., 380, 444, 475.
Foster, B. E., 91, 300.
Foulk, Catharine, 778.
Fox, Elias, 444, 523, 763, 812.
Fradenburg, A. A., 22, 119, 423.
France E. & Son,, 35, 268, 372.
France, J. M., 43.
Freeborn, S. I., 346, 389, 459, 518, 699, 758.
Freeman, W. E., 539.
Frost, Ellery D., 60.
Fuller, D. A., 762.
Fuller, E. J., 664, 668.
Fulton, W. K., 460.
Funk, H. W., 362.
Furness, Dwight, 283, 443, 537, 568.

Gale, Alfred, 11.
Gander, A. M., 23, 252.
Gentry, C. C., 252.
Gibson, F. A., 284.
Gibson, Wm. G., 789.
Gill, M. A., 27.
Glass, I. J., 27, 198, 282, 667.
Goff, A. C., 443.
Good, I. R., 347.
Goodrich, A. S., 523.
Goodrich, H. A., 76.
Gorsuch, Thos., 156, 195, 604.
Goos, Wm., 186, 229.
Gravenhorst, C. J. H., 553.
Graves, H. H., 44, 458.
Green, Chas. H., 380, 459.
Greening, C. F., 411, 475.
Greiner, F., 107, 567.
Greiner, G. C., 555, 588, 599, 743, 777.
Gresh, Abel, 488, 506, 551.
Grimes, Edward, 297.
Grove, H. M., 92.
Guest, Benj., 203.
Guice, L. S., 203.

Haas, Chas., 91.
Haines, J. B., 419.
Hall, C. H., 407.
Hall, O. J., 267.
Hall, Samuel, 108.
Hall, T. S., 428.
Hallegas, C. A., 699.
Hambaugh, J. M., 215, 759.
Hamilton, W. C., 11, 202.
Hammond, J., 682.
Hance, H. H., 12, 236.
Harding, Benj., 652.
Harmer, Walter, 187, 456, 572.
Harris, Wm. E., 443.
Harrison, Mrs. L., 35, 42, 99, 243, 307, 394, 427, 439, 454, 472, 554, 586, 595, 611, 634, 682, 739, 771, 803.
Harrison, S. H., 522.
Harrold, Chas., 220, 251, 540.
Hart, W. S., 151, 268, 583, 778.
Hartman, H. T., 236, 524.
Harvey, Ed. S., 284.
Hasbrouck, J., 155.
Haskins, Jno., 619.
Hatch, C. A., 503, 508, 713.
Hatfield, A. J., 188.
Hatfield, A. J. & E., 428.
Havens, Reuben, 9, 412, 491.
Hawkins, Maria, 459.
Hawley, Geo. M., 283.
Heaton, T., 348.
Heddon, James, 8, 37, 53, 60, 88, 132, 157, 188, 203. 213, 247, 252, 262, 299, 309, 346, 348, 358, 364, 393. 401, 437, 443, 444, 457, 459, 486, 503, 507, 515, 519, 539, 540, 549, 555, 571, 572, 630, 684, 693. 716, 732, 774, 808, 826.
Henderson, W. P., 311.
Henkle, E., 267.
Henning, C. F., 316.
Hensley, J. P., 236, 827.
Hewes, M. T., 107.
Hewitt, John, 199.
Hicken, S. M., 76,
Hicks, J. M., 55, 534.
Highbarger, L., 12, 268.
Hill, A. G., 435.
Hill, H. E., 762.
Hillje, G., 780.
Hilton, Geo. E., 444, 475, 663.
Hinchey, Wm. Jno., 118.
Hinman, S., 157.
Hobler, Geo., 406.
Hogue, R. G., 428.
Hoke, Abe, 492, 604, 762.
Hollingshead, E. S., 43.
Hollingsworth, C.M., 216, 444.
Holmes, R. H., 40.
Holtermann, R. F., 426, 793.
Howard, W. N., 170, 261.
Howell, J. W., 219.
Howes, C. J. F., 57.
Huber, Francis, 681.
Hulett, Mrs. Emma, 104, 732.
Hunt, H. F., 789.
Hunter, J. E., 315.
Huntley, F. A., 25.
Hurst, J., 636.
Hurwood, G. W., 124.
Hutchinson, W. Z., 6, 25. 70, 76, 122, 138, 246, 316, 373, 551, 631, 684, 698, 714, 812.

Ilams, Byron, 373.

Jackson, L. R., 202, 426, 547.
Jacobs, A. D., 315.
James, G. W., 11.
Jardine, Jas., 28, 411.
Jeffrey, H. L., 440, 648, 821.
Jenkinson, B., 284.
Jennings, Aaron, 133.
Johnson, I. J., 27.
Johnson, J. W., 43.
Johnson, Dr. L. C., 186, 408.
Johnson, Rev. L., 732.
Johnson, S. H., 410.
Jones, C. E., 725.
Jones, D. A., 810.
Jones, G. B., 455, 584, 776.
Jones, Henry, 763.
Jordan, E. T., 796.
J. R. D., 442.
J. S. B., 604.
J. T. B., 716.

Kanzler, W. F., 200.
Kearns, Rev. J. E., 219, 348.
Kemp, W. C. R., 139.
Kennedy, F. H. 588, 662, 668.
Kerr, Jno. S.,, 424.
Ketcham, D. M., 27.
Keyes, L. J., 524, 646, 666.
King, A. J., 121, 293, 404.
King, G. W., 203.
King, T. Frank, 459.
Kingsley, C. M., 299.
Kinsell, T. F., 12.
Kleinow, Otto, 204, 347.
Knickerbocker, G. H., 716.
Knohnadel, Henry, 300, 364.
Knoll, D. K., 539.
K. O., 492.
Kurchel, 376.
Kyber, G. E. T., 639.

Lake, C. H., 694, 729, 779.
Langdon, H. P., 747.
Langkamp, Henry, 171, 195.
Langstroth, Rev. L. L., 179, 453, 467, 469, 485, 549, 614, 632, 774.
Latham, J. F., 280, 314, 441, 745.
Lawrence, A. P., 60.
Lawton, B. W., 540.
Lee, Fayette, 11, 108, 252, 443, 533, 780.
Leopold, Gustav, 105, 668.
Little, B. F., 250.
Locke, Silas M., 404.
Loomis, A. L. P., 475.
Lossing, Wm., 523.
Lounsbury, R., 12.
Lubbock, Sir John, 729.
Lynch, Jno. C., 169, 345.
Lyman, W. C., 636.

Mahin, Rev. M., 26, 136, 231, 313, 565.
Malone, Wm., 24, 133, 267, 364, 476, 619.
Mallory, S. H., 378.
Manning, F. R., 42, 220.
Manum, A. E., 300, 523, 789.
Marden, Henry, 372.
Margrave, J. W., 203, 411, 491, 502, 826.
Markham, W. D., 251.
Martin, Albert L., 202.
Martin, J. J., 278, 540, 714.
Mason, Dr. A. B., 200, 249.
Mason, J. B., 284, 313, 316, 364, 380, 405, 438, 627, 697.
Mason, W., 89, 743.
Mayer & Didier, 475.
M. D., 599.
Meade, Ella J., 99.
Meade, G. W. & Co., 163.
Mellville, Geo. W., 364. 428.
Millard, D., 379, 475.
Miller, B. J. & Co., 507.
Miller, Dr. C. C., 115, 150, 167, 172, 200, 246, 284, 467, 807.
Miller, C. E., 219.
Miller, W. H., 60.
Minor, N. L., 43, 91, 195, 443, 601, 668, 731,
Mishler, J. C., 298.
Mitchell, Chas., 76, 219, 395, 540, 651, 668, 747.
Mitchell, Harry W., 299.
M. J. S., 628.
Moerlein, Peter, 747.
Mohr, D., 28.
Moloney, G. J., 118, 490.
Monroe, Jno., 124.
Moore, Edward, 699.
Moore, J. P., 283.
Moore, R. L., 539.
Morgan, R. A., 491.
Morhous, Wm., 235.
Morris, Geo. W., 396, 539.
Morris, Jno., 12, 107.
Morse, Wm., 43, 505.
Motl, Jno., 29.
Mott, Geo., 364.
Moyer, J. A., 587.
Muggrage, I., 44.
Munger, Henry, 412.
Murhard, Gust., 43, 428.
Murphy, R. R., 236.
Muth, C. F., 823.
Muth-Rasmussen, W., 11, 409, 459, 505, 569, 603, 787, 821.

McAllister, Dr. J. S., 380.
McConnell, Jas., 428.
McElhany, H. O., 300.
McKenzie, Wm., 156.
McLain, N. W., 403.
McLean, S. D., 235.
McLees, S., 507, 323.
McMillan, J. F., 507, 731.
McNay, Frank, 378, 507.
McNeill, Jas., 39, 233, 396, 476, 745.

Nau, John, 294, 682.
Nebel, Jno. & Son, 762.
Nelson, P. P., 507.
Neuman, Albert, 252.
Newman, Thos. G., 152, 156, 791, 794, 824.
Nichols, J. R., 763.
Noble, J. A., 124.
Nordyke, Wm. M., 346.
Norris, A. J., 53, 648, 747.
Norris, Chas., 90.
Norton, J. G., 91, 267, 330, 332, 508, 684.
Norton, Jas. T., 332.
Norton, W. H., 456.
Novice, B., 634.
Nutt, W. C., 73, 508, 588.

Oldt, R. B., 267.
Ormsby, L. D., 11.
Osborn, R. M., 284, 731.
Osborne, Robert, 11.
Osburn, A. W., 43, 183, 268, 314, 411, 524.

Paden, Mamie
Park, D. F., 251.
Parmly, Dr. Ehrick, 104.
Pearce, J. A., 169, 620.
Peck, B. W., 251.
Peter, M., 683.
Peters, Geo. B., 378.
Peters, J., 347.
Pettit, S. F., 131, 789.
Phelps, Dr. W. G., 119, 250, 315, 375, 778.
Pickup, E., 284.
Pierce, A. A., 188.
Pierce, T., 668.
Pierson, W. S., 235.
Pike, D. A., 636.
Pinkerton, J. L., 332, 491.
Pitman, J. E., 282.
Pleasants, J. E., 211.
Poindexter, Geo., 171, 396.
Pond, J. E., Jr. 90, 169, 261, 406, 502, 533, 726, 771.
Poppleton, O. O., 29, 39, 153, 395, 821.
Porter, J. W., 312.
Post, O. J., 171.
Powell, E. W., 107.
Powell, J. T., 377.
Pray, G. L., 411.
Pringle, Allen, 73, 266, 389, 408, 435.
Pryal, W. A., 24, 107, 328, 392, 455, 487, 515, 519, 534, 540, 760.
Pudney, W. H., 826.
Puhl, P. M., 91.
Purvis, L. G., 12, 332.

Quinby, C. J., 627.
Quist, Andrew, 220.

Rainey, Jarvis, 475.
Raisch, H., 555.
Ramsey, W. N., 202.
Rankin, G. L., 443.
Reed, L., 133, 300, 508, 540.
Reed, L. G., 284, 348.
Refsinder, A. L., 268.
Reusch, A., 76, 316.
Rey, John, 27. 60, 69, 90, 133, 282, 380, 747, 779.
Reynolds, Jno., 203.
Reynolds M. G., 599.
Rice, C. L., 409.
Richey, H., 202.
Riker, Geo. W., 380.
Roberts, C. M., 684
Roberts, W. J., 651.
Robinson, C. J., 650.
Robson, A. F., 339.
Robson, Wm., 252, 423.
Rockwell, Fred F., 364.
Ronian, Jas., 299.
Root, A. I., 404, 467, 804.
Root, L. C., 331, 410, 471, 618, 726, 747, 791.
Rosebrough, D. R., 28, 220, 664, 731, 780.
Ross, Wm. M., 299.
Rosser, R. A., 60, 731.
Rowe, David, 283, 476.
Rowland, N. H., 459, 826.
Ruddock, Richard, 411.
Rushbridge, Alfred, 284.
Rushton, M. G., 619.
Russell, C., 28.
Russell, Frank W., 467.
Rutherford, J., 60, 232, 796.

Samsell, Chas., 218.
Sanders, J. W., 11, 199, 204. 296, 380, 443, 508, 652.
Sanford, A. C., 428.
Sartorius, L. G., 604.
Saunders, Miss Anna, 523.
Sayfer, O. E., 796.
S. C., 572.
Schafer, F. W., 220.
Scheuring, Paul, 298.
Schmidt, F., 12.
Schwing, C. K., 298.
Scott, B. D., 252, 508.
Scotton, R. E., 731.
Scovell, H., 404.
Scudder, L. H., 409.
Seabright, L. C., 603.
Searles, F., 236.
Sears, J. W., 396.
Secor, Eugene, 71, 282, 378, 475.
Segars, M., 707.
Seitz, Wm., 11, 699.
Shapley, D. L., 219, 299, 475, 491.
Sharp, Isaac, 103, 315.
Shearman, J. O., 236, 476.
Sherman, Mrs. S. E., 11, 348.
Sherman, Wilson, 76, 236, 492.
Shewman, W. A., 585.
Shier, Wm., 107.
Shirer, Green R., 28.
Shirley, W. H., 135.
Shoup, S., 235.
Shuck, J. M., 524.
Shuck, S. A., 362, 470.
Simmins, S., 21, 472.
Singer, A., 729, 761.
Singleton, J., 635.
Sisson, H. B., 167.
Sitts, Chas., 107.
Slade, Wm. D., 602.
Smith, E. J., 76, 251, 410.
Smith, Fred C., 614.
Smith, H. J., 92.
Smith, L. B., 75.
Smith, W. F., 572.
Smith, W. H., 11, 572.
Smith, Mrs. W. H., 172, 572.
Smith, O. B. & Co., 326.
Smith & Morgan, 460.
Smith & Smith, 507.
Smyser, W. D., 294.
Snell, F. A., 60, 364, 508.
Solveson, Chas., 779.
Southwick, Dr. E. B., 85. 169, 171, 219, 248, 281, 361.
Spencer, Dr. D. C., 123, 204, 459.
Stahl, E., 604.
Stalhammar, Hj., 11, 777.
Standish, B. H., 283, 460.
Stanley, Thos. C., 699.
Stark, Henry, 760.
Stearns & Smith, 458.
Steddom, W. C., 87.
Stephens, W. B., 172.
Stephenson, H. W., 372.
Stewart, A. A., 826.
Stewart, D. A., 218.
Stewart, W. H., 278, 297, 329, 343, 394, 424, 471, 489, 521, 536, 582, 601, 647, 715.
Stewart, W. H. H., 684.
Stickles, O. C., 300.
Stiles, F. P., 588, 709.
Stocking, A. D., 21, 55, 157, 199, 231, 266.
Stoddard, J. C., 315, 325.
Stokesberry, R. R., 428, 732.
Stout, W., 827.
Stout, W. H., 11.
Stover, Mrs. B., 219.
Stratton, H. H., 572.
Sturwold, J. W., 124.
Subscriber, 156, 172, 395.
Sweet, C. L., 58.
Swinson, A. L., 309.

Taintor, F. M. 124, 168, 619.
Tait, J. H., 202.
Talmage, Dr., 595.
Tanner, J. C., 475.
Tefft, J. W., 579.
Temple, Geo. A., 11.
Teter, Rev. J. G., 531.
Thielmann, C., 90, 123, 265, 470, 535, 619.
Thom, Dr., J., 28, 347, 491, 539, 667.
Thompson, B. J., 310.
Thompson, Geo. M., 428, 604.
Thorne, Allen H., 28.
Thorne, W. B., 602.
Thurlow, Thos., 43.
Tinker, Dr. G. L., 10, 101, 156, 171, 425, 439, 517, 539, 635.
Todd, Arthur, 211, 264, 569, 789.
Tongue, L. N., 102, 411, 475.
Torrey, R. S., 602.
Travis, I. A., 491.
Treadwell, W. B., 343.
Trester, M. L., 168.
Triem, L. L., 123, 236, 248, 332, 492, 604.
Trimberger, Jno., 105.
T. T., 747.
Turner, T. E., 475.
Tyler, Mrs. S. C., 172, 202, 220, 459.

Unger, Henry, 88.
Unterkircher, A. F., 60.

Valentine, J. M., 54, 652.
Valentine, S. & Son, 460.
Vance, Dr. J. W., 76, 135.
Vandervort, Jno., 806.
Viallon, P. L., 83, 153, 156.
Videto, D., 184.

Wadham, A. H., 716.
Waggoner, S. H., 91, 826.
Wallbridge, A. H., Jr., 473.
Ward, J. A., 538.
Watterson, David, 133.
Webster, A., 280.
Webster, D. G., 780.
Webster, Geo. W., 58.
Webster, H. S., 412.
Weck, Philip, 252.
Weed, A. B., 293.
Weed, Clarence M., 217, 487, 712.
Wellcome, F. D., 227.
Wells, H. L., 157, 732.
West, Miss Emily C., 179.
Weston, W. H., 633.
White, Jesse, 108, 619.
Whiting, Dr. L. C., 327, 332, 601,
Whitmer, Dan., 586.
Whitney, D. L., 107.
Whitney, W. V., 332.
Wicherts, A., 12, 476.
Wilcox, David, 267.
Wilcox, F., 70, 172.
Wilkins, O. F., 539.
Willetts, Hon. E., 790.
Williams, A. M., 745.
Williams, Dr. H. M., 315.
Williams, R. P., 60, 171.
Willis, Rev. G. T., 264.
Wilson, Dr. I. P., 232.
Wilson, Jas. C., 395.
Winder, J. W., 202, 780.
Wing, M. K., 44.
Wismer, Jos. M., 40.
Wolcott, Wm. C., 491.
Woodward, Dr. R. B., 347.
Woodward, W. M., 72, 227, 697.
Wright, Nellie E., 27.
Wright, W. D., 476.
Wright, W. F., 106, 170, 812, 826.

Yoder, Jno., 44, 300.
York, Geo. W., 560, 581.
Young, C. W., 11, 88, 156.
Youngman, S. J., 186.

Zinn, W. B., 316.
Zwiener, H. L., 459.

◆

ILLUSTRATIONS.

Ackerman's bottom-board fasteners 57
Alfalfa 328
Alley's queen-introducing cage 520
Alsike clover 51
Alves' reversible frame 110
Ames' reversible-frame device 110
Anterior leg of a worker-bee 679
Apiary of G. B. Jones 584
Apiary of Hambaugh & Stone 265
Apis dorsata combs 310
California poppy 611
Gall-mites 566
Grizzly honey-eater of California 487
Heddon's drone-trap 262
Heddon's hive-contractors 262
Hedden's reversible frame 9
Hedell's reversible frame 115
Hive with transverse passages 280
Lucerne 51
Miss West's reversible-frame device 227
Phacelia 596
Poison oak 535
Queen-nursery 395
Red clover 51
Tongue of the honey-bee 679
Transferring-board 584
Transferring-sticks 584
Trefoil 51
White clover 51
Whitney & Webber's reversible-frame 115
Wild currant 372
Wm. W. Cary 104, 773